

December 2022 version

Environmental Assessment Worksheet

This most recent Environmental Assessment Worksheet (EAW) form and guidance documents are available at the Environmental Quality Board's website at: <https://www.egb.state.mn.us/> The EAW form provides information about a project that may have the potential for significant environmental effects. Guidance documents provide additional detail and links to resources for completing the EAW form.

Cumulative potential effects can either be addressed under each applicable EAW Item or can be addressed collectively under EAW Item 21.

Note to reviewers: Comments must be submitted to the RGU during the 30-day comment period following notice of the EAW in the *EQB Monitor*. Comments should address the accuracy and completeness of information, potential impacts that warrant further investigation and the need for an EIS.

1. Project title: Twig Area Trail Riders ATV Trail System

2. Proposer: Twig Area Trail Riders

Contact person: Chris Rokke
Title: Vice President
Address: PO Box 46
City, State, ZIP: Saginaw, MN 55779
Phone: 218.591.2602
Fax:
Email: twigatvclub@gmail.com

3. RGU: MNDNR Environmental Review Unit

Contact person: Yvette Gault
Title: Project Manager
Address: 500 Lafayette Rd.
City, State, ZIP: St. Paul, MN 55155
Phone: 651-259-5101
Fax:
Email: environmentalrev.dnr@state.mn.us

4. Reason for EAW Preparation: (check one)

Required:

☐ EIS Scoping

☒ Mandatory EAW

Discretionary:

☐ Citizen petition

☐ RGU discretion

☐ Proposer initiated

If EAW or EIS is mandatory give EQB rule category subpart number(s) and name(s):

Minnesota Rule 4410.4300 Subp. 37 B. The project would be designating at least 25 miles of an existing trail for a new motorized recreational use other than snowmobiling.

5. Project Location:

- County: Carlton and St. Louis
- City/Township: See Attachment A-1
- PLS Location ($\frac{1}{4}$, $\frac{1}{4}$, Section, Township, Range): See Attachment A-2
- Watershed (81 major watershed scale): Lake Superior South (#2), St. Louis River (#3), and Cloquet River (#4)
- GPS Coordinates: See Attachment A-1
- Tax Parcel Number: See Attachment A-3

At a minimum attach each of the following to the EAW:

- County map showing the general location of the project;
- U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (photocopy acceptable); and
- Site plans showing all significant project and natural features. Pre-construction site plan and post-construction site plan.
- List of data sources, models, and other resources (from the Item-by-Item Guidance: *Climate Adaptation and Resilience* or other) used for information about current Minnesota climate trends and how climate change is anticipated to affect the general location of the project during the life of the project (as detailed below in item 7. Climate Adaptation and Resilience).

Figures and Attachments

- Figure 1: Project Overview Map
- Figure 2: ATV Trail Overview Map (on USGS 24k Topographic background)
- Figure 3: Mileage Overview Map
- Figure 4: MnDOT Limited Use Permits
- Figure 5: Project Area Maps
 - Figure 5a-1 through 5a-7: Brookston Loops
 - Figure 5b-1 through 5b-11: Canyon to Cotton
 - Figure 5c-1: Cross Roads Connector
 - Figure 5d-1 through 5d-4: Floodwood Loop
 - Figure 5e-1 through 5e-4: Lumberjack Extension
 - Figure 5f-1 through 5f-5: Lumberjack to Brookston
 - Figure 5g-1 through 5g-26: Road Route Connections
 - Figure 5h-1 through 5h-8: Taft to Canyon
 - Figure 5i-1 through 5i-3: West Lavaque
- Figure 6: Hydrology Map
 - Figure 6a-1 through 6a-7: Brookston Loops
 - Figure 6b-1 through 6b-11: Canyon to Cotton
 - Figure 6c-1: Cross Roads Connector
 - Figure 6d-1 through 6d-4: Floodwood Loop
 - Figure 6e-1 through 6e-4: Lumberjack Extension
 - Figure 6f-1 through 6f-5: Lumberjack to Brookston
 - Figure 6g-1 through 6g-26: Road Route Connections
 - Figure 6h-1 through 6h-8: Taft to Canyon
 - Figure 6i-1 through 6i-3: West Lavaque
- Figure 7: Soils Map (SSURGO)
 - Figure 7a-1 through 7a-7: Brookston Loops
 - Figure 7b-1 through 7b-11: Canyon to Cotton
 - Figure 7c-1: Cross Roads Connector
 - Figure 7d-1 through 7d-4: Floodwood Loop
 - Figure 7e-1 through 7e-4: Lumberjack Extension
 - Figure 7f-1 through 7f-5: Lumberjack to Brookston
 - Figure 7g-1 through 7g-26: Road Route Connections
 - Figure 7h-1 through 7h-8: Taft to Canyon
 - Figure 7i-1 through 7i-3: West Lavaque

- Figure 8: Land Cover Map (NLCD, 2019)
 - Figure 8a-1 through 8a-7: Brookston Loops
 - Figure 8b-1 through 8b-11: Canyon to Cotton
 - Figure 8c-1: Cross Roads Connector
 - Figure 8d-1 through 8d-4: Floodwood Loop
 - Figure 8e-1 through 8e-4: Lumberjack Extension
 - Figure 8f-1 through 8f-5: Lumberjack to Brookston
 - Figure 8g-1 through 8g-26: Road Route Connections
 - Figure 8h-1 through 8h-8: Taft to Canyon
 - Figure 8i-1 through 8i-3: West Lavaque
- Figure 9: Rare Features Map
 - Figure 9a-1 through 9a-7: Brookston Loops
 - Figure 9b-1 through 9b-11: Canyon to Cotton
 - Figure 9c-1: Cross Roads Connector
 - Figure 9d-1 through 9d-4: Floodwood Loop
 - Figure 9e-1 through 9e-4: Lumberjack Extension
 - Figure 9f-1 through 9f-5: Lumberjack to Brookston
 - Figure 9g-1 through 9g-26: Road Route Connections
 - Figure 9h-1 through 9h-8: Taft to Canyon
 - Figure 9i-1 through 9i-3: West Lavaque
- Attachment A-1: Project Location Information
- Attachment A-2: Public Land Survey $\frac{1}{4}$, $\frac{1}{4}$, Section, Township, Range
- Attachment A-3: Tax Parcels
- Attachment B: Trail Design Typical Sections & Boardwalk Detail
- Attachment C: Soil Characteristics
- Attachment D: Existing MnDNR Public Water Crossings
- Attachment E: NHIS letter and IPaC Resource List
- Attachment F: Greenhouse Gas Emissions

6. Project Description:

- a. Provide the brief project summary to be published in the *EQB Monitor*, (approximately 50 words).

The Twig Area Trail Riders ATV Club is reviewing approximately 509.8 miles of roadway and natural surface trail alignments as part of their proposed trail system, connecting communities in Carlton and St. Louis counties. The EAW includes 437.1 miles of preferred and 72.7 miles of alternate routes.

- b. Give a complete description of the proposed project and related new construction, including infrastructure needs. If the project is an expansion include a description of the existing facility. Emphasize: 1) construction, operation methods and features that will cause physical manipulation of the environment or will produce wastes, 2) modifications to existing equipment or industrial processes, 3) significant demolition, removal or remodeling of existing structures, and 4) timing and duration of construction activities

Proposed Project

The proposed project would construct trail segments and allow for seasonal (spring, summer, and fall) motorized all-terrain vehicle (ATV) and off-highway motorcycle (OHM) use on approximately 437.1 miles of roadway and natural surface trail as part of the Twig Area Trail Riders (TATR) trail system. The system is primarily intended for ATV use; however, because ATVs

and OHMs are both classified as off-highway vehicles (OHVs), OHMs would generally be allowed to operate on the same trails without the need for additional trail widening or infrastructure modifications. For the purposes of this Environmental Assessment Worksheet (EAW), all proposed trails are assumed to accommodate both ATVs and OHMs unless otherwise noted.

The proposed 437.1-mile trail system is composed of three (3) route categories:

1. Category 1 Routes – Existing Roads (No Improvements)

A total of 298.4 miles (281.5 miles preferred routes, 16.9 miles of alternate routes) consist of existing roadways that would not require improvements to allow ATV use. These routes are located on county and city roads that are already open to ATVs. These routes are included in the EAW to:

- Allow TATR to formally designate and sign them as part of the trail system
- Include them in official trail maps
- Illustrate overall system connectivity

Because no improvements are proposed, these routes are classified as Category 1.

2. Category 2 Routes – Existing Trails or Roads Requiring Improvements

Approximately 192.1 miles (147.8 miles of preferred routes, 44.3 miles of alternate routes) consist of existing trails or road alignments that would require improvements to support sustainable and safe ATV use. These are classified as Category 2 Routes, which are further divided into the following subcategories:

- **Category 2A – Existing OHV Trails**
Signed and maintained OHV trails which were built for OHV recreation and would require defined improvements [*Note: Category 2A routes (existing OHV trails already designed for OHV use) are not included in the proposed system.*]
- **Category 2B – Existing Snowmobile Trails:**
Signed and maintained snowmobile trails that were not originally designed for OHV use and would require upgrades to meet ATV trail standards.
- **Category 2C – Existing Alignments and Routes:**
Legacy routes such as forest roads, railroad grades, or forest management roads that were not designed for OHV recreation and would require improvements.
- **Category 2D – Potential Seasonal Routes:**
Alignments that may only be suitable under frozen-ground conditions.

Category 2 Sustainability Considerations

For purposes of this EAW, “sustainable” trails are those designed and constructed to resist erosion and minimize long-term maintenance needs. Consistent with the *Minnesota DNR Trail Planning, Design, and Development Guidelines* (2007), sustainable trails incorporate:

1. Ecological sustainability: Minimizing impacts to sensitive natural resources
2. Physical sustainability: Maintaining trail integrity over time
3. Stewardship: Encouraging responsible use and maintenance

Potential improvements to Category 2 routes to allow for sustainable use by ATVs may include:

- Installation of culverts or replacement of failed crossings
- Placement of fill material in low or eroded areas
- Construction of boardwalks or bridges in wetland crossings

- Minor rerouting to avoid sensitive or poorly drained areas

Where feasible, upland reroutes will be prioritized over wetland crossings. Because site-specific design is not complete, the exact locations and configurations of these improvements will be determined during later design and permitting phases. The potential design elements that may be implemented for these types of alignments are discussed in more detail throughout the EAW.

3. Category 3 Routes – New Trail Construction

Approximately 19.3 miles (7.8 miles preferred routes, 11.5 miles alternate) consist of new trail would be constructed in areas where no existing routes are available. These routes are needed to:

- Improve system connectivity
- Avoid large wetland crossings where upland alternatives exist
- Bypass private property where access cannot be secured

New trails would generally consist of:

- A 12–14-foot-wide travel surface
- A maximum disturbance footprint of approximately 26 feet, including shoulders and clearance

Construction activities may include:

- Vegetation clearing
- Grading and surface hardening
- Installation of culverts, bridges, or boardwalks

These routes are classified as **Category 3**. Additional descriptions of the proposed route categories, including proposed review areas for the EAW, are described in more detail, below.

Alternate Routes

Alternate routes include 72.7 miles of trail that are included in the EAW to provide flexibility in the event of permitting challenges, landowner constraints, or environmental concerns. These alternates allow for route adjustments to minimize impacts—particularly to wetlands and waterways—while still meeting the project’s purpose and need.

The alternates include:

- 16.9 miles of Category 1 (existing roads, no improvements)
- 13.1 miles of Category 2B (snowmobile trails requiring improvements)
- 30.7 miles of Category 2C (existing alignments requiring improvements)
- 0.5 miles of Category 2D (potential seasonal routes currently identified)
- 11.5 miles of Category 3 (new trail construction)

An alternatives analysis will be completed during the permitting phase to ensure impacts—particularly to aquatic resources—are avoided and minimized to the greatest extent practicable.

Existing Conditions

The existing Twig Area Trail Riders (TATR) trail system includes the Saginaw Grade/Lumberjack Multi-use Trail, which is located on a former railroad grade extending approximately 10 miles from Spafford Park in Cloquet north to Saginaw.

In addition to this primary trail, the existing TATR system utilizes county road routes that are currently designated for ATV use, providing connectivity between trail segments and access to surrounding areas.

The existing system is interconnected with several regional trail systems, contributing to a broader network of off-highway vehicle (OHV) recreation opportunities. These connections include:

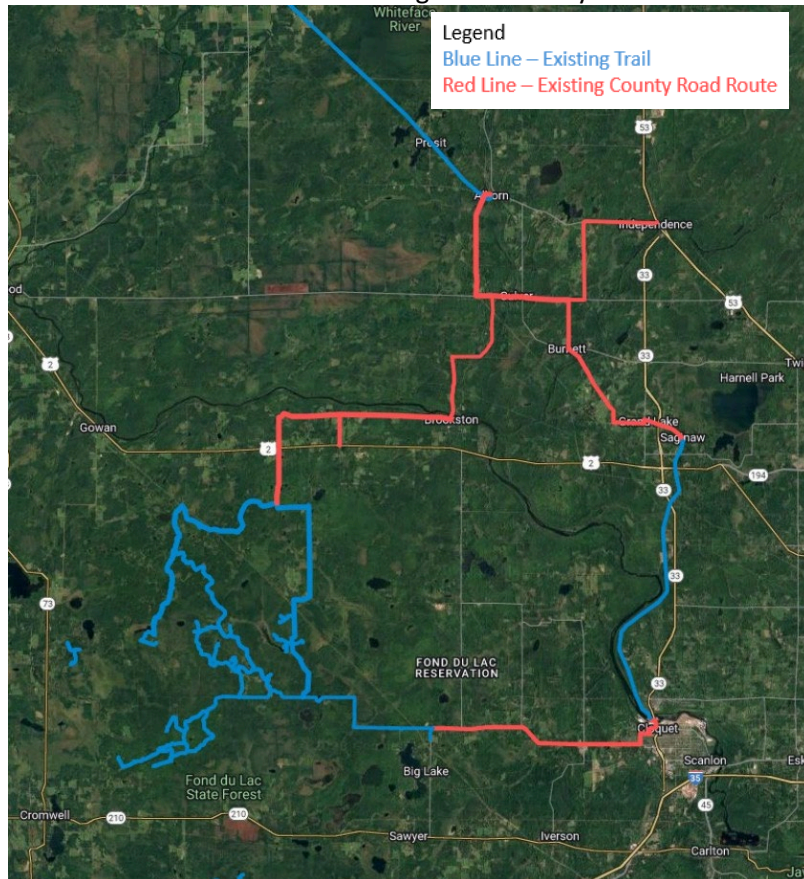
- The Alborn–Pengilly Railroad Trail, sponsored by the Township of Greenway and maintained by the Range Riders ATV Club
- Approximately 37 miles of existing ATV trails within the Fond du Lac State Forest

The TATR trail system also connects to multiple locally sponsored and maintained ATV trail systems, including:

- Alborn Dirt Devils
- Carlton County Riders
- Head of the Lakes ATV Riders
- Hermantown Night Riders
- Reservoir Riders
- Pequaywan Trail Blazers
- Whiteface River Riders

These connections provide regional access and enhance overall trail system connectivity for ATV users. An exhibit depicting the existing TATR trail system is provided below.

Exhibit 1 – Existing TATR Trail System¹



Proposed Route Categories

The proposed project incorporates existing and new routes into an expanded network of ATV trails, which can be placed into five (5) categories for this EAW (note Category 2C is further divided in the sections below); these categories are discussed in detail in the sections below:

Route Category	Description	Existing Landscape Position	Preferred Route Miles	Alternate Route Miles	Total
1	Existing roadways, open to ATV traffic, no improvements needed	On road	281.5	16.9	298.4
2B	Existing snowmobile trail, improvements needed	On road / trail	53.4	13.1	66.5
2C	Existing alignment or route, improvements needed	On road / trail	93.5	30.7	124.2
2D	Potential seasonal route – improvements needed	On road / trail	0.9	0.5	1.4
3	Proposed Route - new construction proposed for ATV use	Off road	7.8	11.5	19.3
Total			437.1	72.7	509.8

¹ <https://twigatvclub.com/trail-maps/>

Category 1 Routes

Category 1 Routes consist of existing public roadways that are currently open to ATV traffic and do not require any physical improvements to accommodate use as part of the TATR trail system. This category includes a total of 298.4 miles, consisting of 281.5 miles of preferred routes and 16.9 miles of alternate routes.

These routes are located on County State Aid Highways (CSAH), County Roads (CR), Township roads, and City roads that are already designated for ATV use. The inclusion of these routes in the proposed project would allow TATR to formally incorporate them into the trail system, including signage and mapping, thereby enhancing overall system connectivity and user navigation.

The only anticipated physical activity associated with Category 1 Routes is the installation of trail signage, where needed, to identify these roadways as part of the TATR trail system. No grading, widening, or other surface modifications are proposed.

Existing road surface widths for Category 1 Routes generally range from 18 to 26 feet. Because these are existing, maintained roadways that are already open to ATV use, and because no physical alterations are proposed beyond signage installation, the review area for environmental effects in this EAW is limited to a 26-foot-wide corridor centered on the road centerline, representing the maximum existing roadway width.

Category 2 Routes

Category 2 Routes consist of existing trails and road alignments that are not currently designated for ATV use. While some of these routes may be informally used by local ATV riders, they are not part of an officially designated trail system and are not maintained to established trail standards.

This category includes a total of 192.1 miles, consisting of 147.8 miles of preferred routes and 44.3 miles of alternate routes. These routes occur on a variety of existing alignments, including:

- Signed and maintained snowmobile trails
- Informal or local ATV trails
- State Forest Roads
- Forest management roads
- Abandoned railroad grades

The anticipated construction limits for improvements to Category 2 Routes are conservatively estimated at a maximum width of 26 feet, consistent with typical trail design standards.

However, evaluation of a wider corridor is necessary to provide flexibility for minor alignment adjustments during final design and permitting. Such adjustments may be required to:

- Avoid or minimize impacts to wetlands and water resources
- Avoid other environmentally sensitive areas
- Address site-specific topographic constraints

To account for this flexibility, a 40-foot-wide review corridor is applied for the analysis of environmental effects in this EAW. Portions of Category 2 Routes would require physical improvements to support safe and sustainable ATV use. Potential improvements may include:

- Placement of fill or surface hardening in low or erodible areas
- Installation or replacement of culverts
- Construction of boardwalks and/or bridges at wetland and water crossings

Because these routes follow existing alignments, vegetation clearing is expected to be limited and generally confined to minor woody vegetation removal where necessary to meet trail standards. Temporary workspace may be required for the installation of culverts, bridges, or boardwalks. These areas would typically:

- Be located in adjacent upland areas where feasible
- Be relatively small in size (approximately 1,000 to 2,000 square feet)
- Avoid tree removal to the extent practicable

Final staging area locations would be determined during construction planning in coordination with contractors and land managers or administering agencies. All staging areas would:

- Be located within the 40-foot-wide review corridor evaluated in this EAW
- Be reviewed for environmental impacts prior to use
- Avoid placement in wetlands or other sensitive resource areas

Where Category 2 Routes are proposed within existing state highway corridors, the trail would generally parallel the highway within the existing right-of-way (ROW). Overall, improvements to Category 2 Routes are intended to formalize existing use patterns while minimizing environmental impacts through adherence to sustainable trail design principles and avoidance of sensitive resources where practicable.

Category 2B Routes

Category 2B Routes consist of existing, signed, and maintained snowmobile trails that were not originally designed for year-round off-highway vehicle (OHV) use. These routes are anticipated to require improvements to accommodate sustainable ATV use during non-frozen conditions, particularly where trails cross wetlands or other sensitive areas.

This category includes both preferred and alternate alignments. Preferred Category 2B routes are those where the majority of the alignment occurs in upland areas, thereby minimizing wetland impacts. Routes that traverse extensive wetland complexes are identified as alternates and are not preferred. If upland alternatives are not feasible and only wetland-dominated routes are available, these Category 2B routes would not be constructed for ATV use.

Currently, snowmobile use occurs during frozen conditions, which avoids disturbance to wetlands and sensitive resources. The proposed introduction of ATV use during non-frozen conditions represents a new use that could result in impacts to these resources. Accordingly, all Category 2B routes will be designed to avoid and minimize impacts to the greatest extent practicable, consistent with applicable regulations and best management practices.

Alternate Category 2B routes that cross larger wetland areas are included in the EAW to:

- Allow for a comparative review of potential alignments
- Demonstrate that the least environmentally impactful alternative has been selected

Category 2B Routes – Design and Permitting

All Category 2B trails will require site-specific engineering design and aquatic resource permitting prior to construction. Trail design will follow the *Trail Planning, Design, and Development Guidelines* (MNDNR, 2007). Crossings of wetlands and water resources along Category 2B routes may incorporate one or more of the following design elements, depending on site conditions:

1. Culvert with fill
2. Temporary bridge
3. Permanent bridge

4. Boardwalk

Culvert with fill – Typically used for small (less than 10 feet) wetland or water crossings, particularly where water flows through a defined, narrow drainage channels that enable the tread to span the drainageway without building up the approaches. The major advantage of culverts is total separation between tread and water, keeping trails users dry and preventing flow disturbance. Culvert installation may include

- Excavation and placement of the culvert
- Installation of geotextile and geogrid for stabilization
- Placement of aggregate and fill material

Where necessary, trails may be excavated to approximately 12 inches and backfilled with suitable material. Fill sections typically range from 6 to 18 inches above grade, depending on site conditions. The placement of fill within wetlands would require wetland permitting and compensatory mitigation, which is discussed in Item 12.b.iv. A typical section of a culvert with wetland fill is provided as Attachment B.

*Temporary bridge*² – Typically used for water crossing greater than 10 feet, where minimal site disturbance is desired. Temporary bridges are designed and constructed to be removed for maintenance and flood damage prevention. No foundations, pilings, culverts, excavation, or other special site preparation can take place during the installation of a temporary bridge. Temporary bridges must have a clearance of three (3) feet between the lowest portion of the bridge and the ordinary high-water level on a navigable stream and must be consistent with state and local rules and regulations.

Permanent bridge – Required for water crossings that are greater than 60 feet or where a long-term, durable structure is necessary. Permanent bridges are built structures that are preferred for open and flowing water. Bridge type and design are often determined by the type of foundation best suited to the site given the local soils, span of the bridge, and load bearing requirements. Permanent bridges have been utilized successfully by ATV Clubs to cross rivers and streams, for example the Beaver River bridge³ and the Vermilion River bridge⁴. Permanent bridges are designed to meet requirements at the specific location; the design of permanent bridges occurs at the design phase of the project, but an example plan sheet is provided as Attachment B.

Boardwalk – Used primarily for long wetland crossings (generally greater than 60 feet) to protect sensitive soils, vegetation, and hydrology, and when traditional temporary or permanent bridges would cause too much disturbance, require heavy foundations, or be impractical over long distances. Boardwalks typically are designed for 8-foot-wide segments for single-lane traffic or 16-foot-wide segments for two-lane traffic. Direct impacts related to the construction of a boardwalk results from installation of footings to support the elevated deck. Boardwalk structures use the following elements:

- Pressure-treated dimensional lumber (6"x6" stringers and footings, 2"x8" decking)
- Intermittent timber footings (not continuous fill)
- Narrow linear disturbance footprint (typically ~8–16 ft width depending on section)

Disturbance is limited to the boardwalk width and temporary construction access. Minimal soil excavation is required due to the footing design and no continuous impervious surface is

² [Temporary Bridges and Low-Water Ford Crossings](#)

³ [Prospector ATV Club Wins National Award](#)

⁴ [ATV Update: New Steel Bridge over the Vermilion River](#)

required as the open decking allows for water infiltration.

While Category 2B routes currently function effectively under frozen conditions for snowmobile use, additional infrastructure is necessary to support sustainable ATV use during non-frozen conditions. Upland alternatives will be prioritized wherever feasible, and wetland crossings will incorporate appropriate design measures to avoid, minimize, and mitigate environmental impacts in accordance with applicable standards and permitting requirements.

Category 2C

Category 2C Routes consist of existing alignments and routes such as forest management routes (FMRs), abandoned railroad grades, local ATV trails, and state forest roads. These routes were not originally designed or maintained for designated ATV trail use but may be suitable with targeted improvements.

Where Category 2C routes intersect water resources, bridge crossings would be required. A total of six (6) new public water crossings are anticipated for Category 2C routes (see Section 12.a.i).

To better characterize the range of existing conditions and potential environmental effects, Category 2C Routes are further divided into two subcategories:

1. Category 2C-1 – State Forest Roads
2. Category 2C-2 – Native Material Routes

Category 2C-1 – State Forest Roads

State Forest Roads are designated under Minnesota Statutes §89.71 to provide access to lands administered by the Minnesota Department of Natural Resources (MNDNR), Division of Forestry. These routes are actively maintained, including periodic grading, gravel replacement, and drainage management.

In general, Category 2C-1 routes are already suitable for ATV use with minimal modification. However, localized improvements may be necessary to ensure sustainable, non-erosive conditions, including:

- Installation or replacement of culverts to maintain drainage patterns
- Minor grading or surface improvements

All proposed work on Category 2C-1 routes would be conducted in coordination with the MNDNR Division of Forestry as the land administrator. Trail design and any improvements would follow the *Minnesota DNR Trail Planning, Design, and Development Guidelines* (2007).

Category 2C-2 – Native Material Routes

Category 2C-2 Routes consist of existing travel corridors composed primarily of native soils and materials. These routes are typically used for forest resource management or informal recreational access.

While some of these routes are located within the statutory boundaries of state forests, they are often situated on county-managed tax-forfeit lands or private lands, rather than lands administered by the MNDNR. As a result, these routes generally receive limited maintenance, typically on an as-needed basis to support periodic management access.

In general, Category 2C-2 routes are expected to require minor, localized improvements to accommodate sustainable ATV use. These improvements may include:

- Installation of culverts where none currently exist or where existing culverts have failed
- Placement of fill or aggregate in low or eroded areas

These improvements are anticipated to occur at discrete locations along the routes rather than as continuous reconstruction. Category 2C routes that would require more extensive reconstruction or that would result in greater potential impacts to wetlands or water resources are instead classified as Category 2D Routes (potential seasonal routes), which may only be suitable for use under frozen-ground conditions.

All improvements to Category 2C Routes will be designed in accordance with the *Minnesota DNR Trail Planning, Design, and Development Guidelines* (2007) to ensure sustainable use and minimize environmental impacts. Overall, Category 2C Routes utilize existing disturbed corridors and are anticipated to require only limited, site-specific improvements, resulting in relatively low potential for environmental impacts compared to new trail construction.

Category 2D

Category 2D Routes consist of existing alignments or travel corridors that are currently best suited for seasonal use under frozen-ground conditions. These routes typically occur where: Large wetland complexes are present, or existing routes have deteriorated to a condition that does not support sustainable ATV use during non-frozen conditions

Many Category 2D Routes represent portions of Category 2C alignments that would require substantial reconstruction or infrastructure to accommodate year-round ATV use. As such, these routes are identified as potential seasonal routes or candidates for more intensive improvement, depending on feasibility and environmental considerations.

Category 2D – Design and Permitting

All Category 2D Routes would require site-specific engineering design and aquatic resource permitting prior to construction or conversion to non-seasonal use. As with other route categories, design will follow the *Minnesota DNR Trail Planning, Design, and Development Guidelines* (2007).

Because Category 2D Routes are frequently located within wetland-dominated landscapes or other resource-constrained areas, drainage and water crossings will be addressed using the same suite of design elements described for Category 2B Routes, including: culverts with fill, temporary bridges, permanent bridges, and boardwalk structures. The selection of appropriate crossing types will be based on site-specific conditions such as hydrology, soil characteristics, span length, and resource sensitivity.

Given the greater environmental constraints typically associated with Category 2D Routes, application of these design elements will emphasize avoidance and minimization of impacts, and in some cases may require more extensive use of elevated structures (e.g., boardwalks or bridges) compared to Category 2B Routes. All proposed improvements will be subject to applicable state and federal permitting requirements, including wetland and public waters approvals.

While Category 2D routes currently function under frozen conditions, conversion to sustainable, non-seasonal ATV use would require more intensive design and construction measures. Accordingly, these routes will be carefully evaluated during the design and permitting process, and may:

- Be improved with appropriate infrastructure where feasible, or
- Remain seasonal use routes, or
- Be avoided in favor of upland alternative alignments where such options are available

All improvements will prioritize avoidance and minimization of impacts to wetlands and water resources, consistent with applicable regulations and best management practices.

Category 3 Routes

Category 3 Routes consist of previously undeveloped areas where no existing road or trail corridor is present and new trail construction is required. Development of Category 3 Routes would involve full trail construction, including establishment of a 12–14-foot-wide drivable surface with a total disturbance footprint of up to 26 feet to accommodate shoulders, drainage features, and vegetation clearance. Typical construction activities may include:

- Clearing of vegetation within the trail corridor
- Grading and surface preparation
- Placement of fill or surface hardening materials in low or unstable areas
- Installation of culverts, boardwalks, and/or bridges to support sustainable drainage crossings

A total of three (3) new public water crossings are anticipated for Category 3 Routes (see Section 12.a.i). All trail design and construction will follow the *Minnesota DNR Trail Planning, Design, and Development Guidelines* (2007) to ensure long-term sustainability and minimize environmental impacts.

Because Category 3 Routes involve new ground disturbance and potential alignment flexibility, a 40-foot-wide review corridor is applied for the evaluation of environmental effects in this EAW. This expanded review area allows for minor adjustments to the final alignment during design and permitting to:

- Avoid or minimize impacts to wetlands and water resources
- Avoid sensitive natural features
- Address site-specific topographic conditions

Compared to Categories 1 and 2, Category 3 Routes have the greatest potential for environmental impact due to new disturbance; however, impacts will be minimized through careful alignment selection, adherence to design standards, and avoidance of sensitive resources where practicable.

Proposed Trail Groups

For this EAW, the 509.8 miles (437.1 miles preferred and 72.7 miles alternate) of trail are divided into trail groupings to allow for clear and concise review, and to mitigate confusion of routes. The proposed trail groups are summarized, below:

Proposed Trail Length in Miles

Trail Group Name	Category 1		Category 2B		Category 2C		Category 2D		Category 3	
	Alternate	Preferred	Alternate	Preferred	Alternate	Preferred	Alternate	Preferred	Alternate	Preferred
Brookston Loops		9.5	1.7	7.2	2.7	10.5	0.01	0.1	1.9	1.4
Canyon to Cotton	2.1		2.9	0.6	15.9	29.2	0.1	0.1	4.5	
Cross Roads Connector		0.5				1.6				
Floodwood Loop		6.6		3.3		9.5		0.04		
Lumberjack Extension		1				9.3		0.7	0.6	1.1

Lumberjack to Brookston		1.4		5.6	0.2	2.6			0.6	2.0
Road Route Connections	4.3	259.4	0.7	3.2		14.7			2.8	2.0
Taft to Canyon			7.8	31.6	10.6	8.8	0.4		1.1	1.3
West Lavaque Trail System	10.5	3.1		1.9	1.3	7.3				
Total	16.9	281.5	13.1	53.4	30.7	93.5	0.5	0.9	11.5	7.8
Total by Category	298.4		66.5		124.2		1.4		19.3	
	Grand Total: 509.8									

Trail segments and alternative routes reviewed as part of the EAW are described below and shown on Figures 2-1 to 2-12. Alternative routes are included in the review of the proposed project in case of inability to secure landowner/administrator permissions. Final routes will be decided prior to the design and permitting phases of the project.

Definition of Trail Segment Descriptions

The following sections describe each proposed trail segment and summarize existing conditions, including whether improvements would be required to support safe and sustainable ATV use. The terms below are used to consistently characterize existing route types within the project area. These definitions are used throughout the EAW to ensure consistent classification of trail segments and to support accurate assessment of environmental effects

Existing Route – existing roadway, including County State Aid Highway (CSAH), County Road (CR), Township roads, or City roads, that currently allow ATV traffic. Existing routes that do not require improvements are classified as Category 1. Existing routes that require repairs or modifications to support sustainable ATV use are classified as Category 2C.

Existing Snowmobile Trail – A signed and maintained trail managed by a snowmobile club and intended primarily for winter use under frozen conditions. These routes may require improvements to support safe and sustainable ATV use during non-frozen conditions. Snowmobile trails are often suitable for ATV trail development because they have already been cleared for recreational use. However, some segments traverse extensive wetlands and are not preferred for ATV development. In these cases, alternative upland routes (typically Category 3 – New Trail) are identified as preferred alignments where feasible. These routes are classified as Category 2B.

Existing MNDNR Administered State Forest Roads – Roads designated under Minnesota Statutes §89.71 by the Commissioner of Natural Resources to provide access to lands managed by the Division of Forestry. These roads are generally maintained for resource management and public use, and some segments may be co-managed with county agencies or local jurisdictions. In certain cases, they may also be dual-designated as recreational trails. These routes are classified as Category 2C-1.

Existing Forest Management Routes – Routes established to provide access for forest management activities, as described in the *Voluntary Site-Level Forest Management Guidelines*. These routes are typically constructed of native materials, are not designated as state forest roads, and receive limited or intermittent maintenance. These routes are classified as Category 2C-2.

Existing Local ATV Trail – An existing trail currently used by ATV riders but not formally designated, maintained, or managed by an ATV club. These trails may exhibit varying conditions and often require repairs or improvements to meet sustainable trail standards. These routes are classified as Category 2C-2.

Existing RR Grade – A former railroad corridor that has been decommissioned or abandoned in place and is no longer in active use. Conditions vary widely—from maintained and passable to overgrown or partially degraded—and may require improvements to support ATV use. These routes are classified as Category 2C-2.

New Trail – A proposed trail segment located in previously undeveloped areas where no existing corridor or route is present. Construction of these trails would require full development, including clearing, grading, and installation of appropriate drainage and crossing infrastructure. These routes are classified as Category 3.

Brookston Loops

The Brookston Loop consists of approximately 28.7 miles of proposed ATV trail and 6.3 miles of alternate routes (see Figures 5a-1 through 5a-7: Brookston Loop). This trail group is intended to enhance regional connectivity by linking to the Floodwood Loop (described elsewhere in this EAW), the Fond du Lac State Forest ATV trail system, and other portions of the TATR trail system via existing roadway connections.

Preferred trail segments primarily follow existing corridors, including logging roads, forest management routes, local ATV trails, county roads, and segments of the Alborn Snowmobile Trail system. Utilizing these existing alignments minimizes the need for new disturbance while improving overall system continuity.

Approximately 3.3 miles of new trail (Category 3 Routes) are included within the preferred alignment. These segments are proposed to avoid wetland complexes and other sensitive resource areas, bypass private property where access cannot be obtained, and improve overall trail sustainability by shifting alignments to more suitable upland terrain. Overall, the Brookston Loop emphasizes the use of existing disturbed corridors while strategically incorporating new segments to reduce environmental impacts and improve long-term trail sustainability. The Brookston Loop is comprised of the following trail segments, with alternate routes identified separately (typically highlighted in gray in figures):

Trail Segment	Length (miles)	Route Category	Preferred or Alternate	Description
Brookston to Burnett Alt #1	0.4	2C-2	Alternate	Existing Forest Management Route, Improvements Needed
Brookston to Burnett Alt #2	0.6	2C-2	Alternate	Existing Local ATV Trail, Improvements Needed
Brookston to Burnett	3.5	1	Preferred	Existing Route on County Road, No Improvements Needed
Brookston to Burnett	2.1	2C-2	Preferred	Existing Local ATV Trail, Improvements Needed
Brookston to Burnett	0.2	3	Preferred	New Trail to Avoid Private Property
Brookston to Burnett	0.1	2D	Preferred	Existing Local ATV Trail, Improvements Needed
East Brookston Loop	1.0	2C-2	Preferred	Existing Local ATV Trail, Improvements Needed
Eklund Rd Road Route	2.9	1	Preferred	Existing Route on Eklund Rd, No Improvements Needed
Eklund Rd to Hwy 8	3	2C-2	Preferred	Existing Local ATV Trail, Improvements Needed

Trail Segment	Length (miles)	Route Category	Preferred or Alternate	Description
Eklund Rd to Hwy 8 Alternate	1.5	2C-2	Alternate	Existing Local ATV Trail, Improvements Needed
Eklund Rd to Hwy 8 Alternate	0.01	2D	Alternate	Existing Local ATV Trail, Improvements Needed
Eklund Rd to Hwy 8 Cut Across	0.2	2C-2	Alternate	Existing Local ATV Trail, Improvements Needed
Eklund Rd to Langley FR Trail	0.8	2C-2	Preferred	Existing Route on Langley Forest Road, Improvements Needed
Hwy 31 to Eklund Rd	0.7	2B	Preferred	Existing Alborn Snowmobile Trail, Improvements Needed
Hwy 31 to Eklund Rd	1.5	2C-2	Preferred	Existing Forest Management Road, Improvements Needed
Hwy 31 to Eklund Rd	1.2	3	Preferred	New Trail
Hwy 8 Road Route	3.1	1	Preferred	Existing Route on County Highway 8, No Improvements Needed
Langley FR to River Overlook Intersect	4.5	2B	Preferred	Existing Alborn Snowmobile Trail, Improvements Needed
River Overlook Intersect to Hwy 8 Trail	1.6	2B	Preferred	Existing Alborn Snowmobile Trail, Improvements Needed
River Overlook Intersect to Hwy 8 Trail	1.7	2B	Alternate	Existing Alborn Snowmobile Trail, Improvements Needed
River Overlook Intersect to Hwy 8 Trail	0.5	2C-2	Preferred	Existing Local ATV Trail to Bypass Wetlands, Improvements Needed
River Overlook Intersect to Hwy 8 Trail	1.9	3	Alternate	New Trail to Avoid Wetlands
River Overlook Spur	0.4	2B	Preferred	Existing Alborn Snowmobile Trail, Improvements Needed
West Brookston Loop	1.6	2C-2	Preferred	Existing Forest Management Route, Improvements Needed

Canyon to Cotton

The Canyon to Cotton trail group consists of approximately 29.9 miles of proposed ATV trail and 25.5 miles of alternate routes (see Figures 5b-1 through 5b-11: Canyon to Cotton). This trail group is intended to enhance regional connectivity by linking to the Taft to Cotton trail group (described elsewhere in this EAW) and other portions of the TATR trail system via existing roadway connections.

Preferred trail segments primarily utilize existing alignments, including logging roads, local ATV trails, forest management routes, county roads, and segments of the Reservoir Riders Snowmobile Trail system. The use of these existing corridors reduces the need for new disturbance and supports efficient trail system integration.

Approximately 4.5 miles of new trail (Category 3 Routes) are included as alternate routes. These new segments are included to allow for review of avoidance or minimization of impacts to wetlands and other sensitive natural resources, bypass private lands where access cannot be secured, and improve trail sustainability by locating routes in more suitable terrain. This trail group incorporates a higher proportion of alternate routes relative to other segments, reflecting the need to address constraints such as wetland complexes and land ownership while ensuring a feasible and environmentally responsible final alignment. The Canyon to Cotton trail group is comprised of the following trail segments, with alternate routes identified separately (generally depicted in gray in the figures):

Trail Segment	Length (miles)	Route Category	Preferred or Alternate	Description
Connector North	5.7	2C-2	Preferred	Existing Route on Potlatch Forest Road, Improvements Needed
Connector North	0.6	2B	Preferred	Existing Snowmobile Trail; Improvements Needed
Connector North	0.1	2D	Preferred	Existing Route on Potlatch Forest Road, Improvements Needed
Nevens Lake Loop	4.9	2C-1	Alternate	Existing State Forest Road, Improvements Needed
Radio Rd Loops East Connector	1.2	2C-2	Alternate	Existing Local ATV Trail, Improvements Needed
Radio Rd Loops East Connector	0.7	3	Alternate	New Trail
Radio Rd North Loop	1.6	2C-2	Alternate	Existing Local ATV Trail, Improvements Needed
Radio Rd North Loop	0.7	3	Alternate	New Trail
Radio Rd South Loop	2.4	2C-2	Alternate	Existing Route on Radio Rd/ Local ATV Trail, Improvements Needed
Radio Rd Trail	6.8	2C-2	Preferred	Existing County Road / RR Grade, Improvements Needed
Radio Rd Trail	3.1	2C-2	Alternate	Existing County Road / RR Grade, Improvements Needed
Radio Rd Trail	0.1	2D	Alternate	Existing County Road / RR Grade, Improvements Needed
Twin Lakes Rd	2.1	1	Alternate	Existing Route on Twin Lakes Rd, No Improvements Needed
Twin Lakes Rd Alternative	0.8	2C-2	Alternate	Existing Local ATV Trail; Improvements Needed
Twin Lakes Rd – Private Property Alternative	0.7	3	Alternate	New Trail to Avoid Private Property
Uskabwanka Trail	2.9	2B	Alternate	Existing Reservoir Riders Snowmobile Trail, Improvements Needed
Water Trail Bypass	3.8	2C-2	Preferred	Existing Forest Management Route, Improvements Needed
West Twin Lake Trail Alternative	0.7	3	Alternate	New Trail to Reduce Wetland Impacts
West Twin Lake Trail	1.6	2C-2	Alternate	Existing Local ATV Trail; Improvements Needed
West Twin Lake Trail	0.7	3	Alternate	New Trail
Wood Duck to Twin Lakes Rd	0.3	2C-2	Alternate	Existing Local ATV Trail, Improvements Needed
Wood Duck Trail	8.5	2C-2	Preferred	Existing Local ATV Trail/Forest Management Route, Improvements Needed
Wood Duck Trail	1.0	3	Alternate	New Trail
Wood Duck Trail – South Route	4.4	2C-2	Preferred	Existing Local ATV Trail / Forest Road, Improvements Needed

Cross Roads Connector

The Cross Roads Connector consists of approximately 2.1 miles of proposed ATV trail, with no alternate routes (see Figure 5c-1: Cross Roads Connector). This trail segment is proposed to be located within the road right-of-way (ROW) of U.S. Highway 2 and State Highway 33. The connector will provide direct access to the Caywood Country Store, offering trail users convenient access to fuel and other amenities.

The Cross Roads Connector will enhance system connectivity by linking to the existing Cloquet–Saginaw State ATV Trail and other portions of the TATR trail system via existing roadway connections. Because the trail would be located within Minnesota Department of Transportation (MnDOT) ROW, development of these segments will require Limited Use Permits (LUPs) from MnDOT. All trail design and placement within the ROW will be coordinated with MnDOT and will comply with applicable requirements and standards. The Cross Roads Connector is comprised of the following trail segments:

Trail Segment	Length (miles)	Route Category	Preferred or Alternate	Description
Cross Roads Connector	0.5	1	Preferred	Existing Route on Seville Rd, No Improvements Needed
Cross Roads Connector	1.6	2C-2	Preferred	Existing Route on Seville Rd, Improvements Needed

Floodwood Loop

The Floodwood Loop consists of approximately 19.4 miles of proposed ATV trail, with no alternate routes (see Figures 5d-1 through 5d-4: Floodwood Loop). This trail group is intended to enhance connectivity by linking to the Brookston Loop (described elsewhere in this EAW) and providing access to the City of Floodwood.

Preferred trail segments primarily follow existing corridors, including local ATV trails, county roads, and segments of the Floodwood/Meadowlands Snowmobile Trail system and the Albion Snowmobile Trail system. Use of these existing routes minimizes the need for new disturbance while improving overall trail system connectivity. The Floodwood Loop is comprised of the following trail segments:

Trail Segment	Length (miles)	Route Category	Preferred or Alternate	Description
Floodwood Loop to Brookston Loop Connector	2.8	2C-2	Preferred	Existing Local ATV Trail, Improvements Needed
Hwy 8 & CR 965 Road Route	6.6	1	Preferred	Existing Route on Hingeley Road / County Road 965 & Floodwood / Meadowlands Trails, No Improvements Needed
North Loop	2.4	2C-2	Preferred	Existing Local ATV Trail, Improvements Needed
North Loop	3.3	2B	Preferred	Existing Albion Snowmobile Trail, Improvements Needed
South Loop	4.3	2C-2	Preferred	Existing Local ATV Trail, Improvements Needed
South Loop	0.04	2D	Preferred	Existing Local ATV Trail, Improvements Needed

Lumberjack Extension

The Lumberjack Extension consists of approximately 12.1 miles of proposed ATV trail and 0.6 miles of alternate routes (see Figures 5e-1 through 5e-4: Lumberjack Extension). This trail group is intended to improve regional connectivity by linking to the Taft to Canyon and Canyon to Cotton trail groups (both described elsewhere in this EAW), as well as other portions of the TATR trail system via existing roadway connections.

Preferred trail segments primarily utilize existing corridors, including county roads and segments of abandoned railroad grade, which minimizes the need for new disturbance and supports efficient integration with the broader trail network. Approximately 1.7 miles of new

trail (Category 3 Routes) are included as preferred and alternate routes. The Lumberjack Extension is comprised of the following trail segments, with alternate routes identified separately (generally depicted in gray in the figures):

Trail Segment	Length (miles)	Route Category	Preferred or Alternate	Description
Hwy 53 to Taft	5.8	2C-2	Preferred	Existing RR Grade, Improvements Needed
Hwy 8 Road Route	1.0	1	Preferred	Existing Route on County Road 8, No Improvements Needed
Saginaw Rd to Highway 8	3.5	2C-2	Preferred	Existing RR Grade, Improvements Needed
Saginaw Rd to Highway 8	1.1	3	Preferred	New Trail
Saginaw Rd to Highway 8	0.7	2D	Preferred	Existing RR Grade, Improvements Needed
Saginaw Rd to Hwy 8 Alt	0.6	3	Alternate	New Trail to Avoid Private Property

Lumberjack to Brookston

The Lumberjack to Brookston trail group consists of approximately 11.6 miles of proposed ATV trail and 0.8 miles of alternate routes (see Figures 5f-1 through 5f-5: Lumberjack to Brookston). This trail group is intended to enhance connectivity by linking to the Cloquet–Saginaw State Trail and other portions of the TATR trail system via existing roadway connections.

Preferred trail segments primarily follow existing corridors, including county roads, local ATV trails, forest management routes, and segments of the Wood City Riders Snowmobile Trail system. Utilizing these existing alignments minimizes the need for new disturbance while improving continuity within the regional trail network.

The Lumberjack to Brookston trail group is comprised of the following trail segments, with alternate routes identified separately (generally depicted in gray in the figures):

Trail Segment	Length (miles)	Route Category	Preferred or Alternate	Description
Cord Rd to Lumberjack Connector	0.3	3	Preferred	New Trail
Dump Trail	0.3	2C-2	Preferred	Existing Local ATV Trail, Improvements Needed
Hwy 2 to Brookston Road Route	1.4	1	Preferred	Existing Route on County Road, No Improvements Needed
Lumberjack to Highway 2	5.6	2B	Preferred	Existing Wood City Riders Snowmobile Trail, Improvements Needed
Lumberjack to Highway 2	0.9	2C-2	Preferred	Existing Forest Management Route, Improvements Needed
Lumberjack to Highway 2	1.7	3	Preferred	New Trail in Hwy ROW
Lumberjack to Potlatch Corner Alt	0.6	3	Alternate	New Trail to Avoid Private Property
New Proposed	0.2	2C	Alternate	Existing Local ATV Trail, Improvements Needed
Skyline Connector	0.7	2C-2	Preferred	Existing Local ATV Trail, Improvements Needed
Sunnyside Spur	0.7	2C-2	Preferred	Existing Local ATV Trail, Improvements Needed

Taft to Canyon

The Taft to Canyon trail group consists of approximately 41.5 miles of proposed ATV trail and 19.9 miles of alternate routes (see Figures 5h-1 through 5h-8: Taft to Canyon). This trail group is intended to enhance regional connectivity by linking to the Canyon to Cotton and Lumberjack Extension trail groups (both described elsewhere in this EAW), as well as other portions of the TATR trail system via existing roadway connections.

Preferred trail segments primarily follow existing corridors, including portions of the Reservoir Riders Snowmobile Trail system, local ATV trails, logging roads, forest management routes, and abandoned railroad grade. The use of these existing alignments reduces the need for new disturbance while improving overall system continuity.

Approximately 2.4 miles of new trail (Category 3 Routes) are included as preferred and alternate routes. These segments are proposed to avoid wetland complexes and other sensitive resource areas and improve trail sustainability by shifting alignments to more suitable terrain. This trail group includes a relatively high proportion of alternate routes, reflecting the need to address environmental constraints—particularly wetlands—while maintaining feasible connectivity between major segments of the TATR system.

The Taft to Canyon trail group is comprised of the following trail segments, with alternate routes identified separately (generally depicted in gray in the figures):

Trail Segment	Length (miles)	Route Category	Preferred or Alternate	Description
(E) ATV Trail	1.4	2B	Alternate	Existing Reservoir Riders Snowmobile Trail, Improvements Needed
(E) Route Alt	0.8	2C-2	Preferred	Existing Forest Management Route, Improvements Needed
3 Island Overlook Trail	0.1	2C-2	Preferred	Existing Local ATV, Improvements Needed
Alt Connector	0.3	2C-2	Alternate	Existing Local ATV Trail, Improvements Needed
Alternate Route	1.8	2C-2	Alternate	Existing Local ATV Trail, Improvements Needed
Alternate Route	0.1	2D	Alternate	Existing Local ATV Trail, Improvements Needed
Bog Bypass	0.4	3	Preferred	New Trail to Avoid Wetlands
E ATV Trail Alternate	0.3	3	Alternate	New Trail
Fredenburg East (Private Alt)	0.9	2B	Preferred	Existing Route on Reservoir Riders Snowmobile Trail, Improvements Needed
Fredenburg East (Private Alt)	0.5	2C-2	Preferred	Existing Local ATV, Improvements Needed
Fredenburg East (Public Alt)	2.1	2C-2	Alternate	Existing Route on Local ATV, Improvements Needed
Fredenburg Trail	4.9	2B	Preferred	Existing Reservoir Riders Snowmobile Trail, Improvements Needed
Harris West	0.9	2B	Preferred	Existing Reservoir Riders Snowmobile, Improvements Needed
Harris West	0.4	3	Preferred	New Trail
Independence FR Spine Trail	4.0	2B	Preferred	Existing Reservoir Riders Snowmobile Trail / State Forest Minimum Maintenance Road; Improvements Needed

Trail Segment	Length (miles)	Route Category	Preferred or Alternate	Description
Independence FR to Harris Rd	1.1	2B	Preferred	Existing Reservoir Riders Snowmobile Trail, Improvements Needed
Independence FR to Harris Rd	2.4	2C-2	Alternate	Existing Forest Management Route, Improvements Needed
Independence FR to Harris Rd	0.3	2D	Alternate	Existing Forest Road, Improvements Needed
Independence FR to Harris Rd West Loop	0.7	2C-2	Alternate	Existing Forest Management Route, Improvements Needed
Independence FR to Harris Rd West Loop	2.0	2B	Preferred	Existing Reservoir Riders Snowmobile Trail, Improvements Needed
Independence FR to Mud Lake	3.3	2B	Preferred	Existing Reservoir Riders Snowmobile Trail, Improvements Needed
Independence FR to Mud Lake	0.9	2C-2	Preferred	Existing FMR, Improvements Needed
Independence FR to Shipley Rd Cut Off	3.8	2B	Preferred	Existing Reservoir Riders Snowmobile Trail, Improvements Needed
Independence FR to Shipley Rd Cut Off	0.7	2B	Alternate	Existing Reservoir Riders Snowmobile Trail, Improvements Needed
Loop Connector	0.3	2B	Preferred	Existing Reservoir Riders Snowmobile Trail, Improvements Needed
Loop Connector	0.3	2B	Alternate	Existing Reservoir Riders Snowmobile Trail, Improvements Needed
Lost Lake Spur	0.7	2B	Preferred	Existing Reservoir Riders Snowmobile Trail, Improvements Needed
Lost Lake Trail	0.3	2C-2	Preferred	Existing FMR, Improvements Needed
Lost Lake Trail	2.7	2B	Preferred	Existing Reservoir Riders Snowmobile Trail, Improvements Needed
Mud Lake to Harris Rd	1.4	2B	Preferred	Existing Reservoir Riders Snowmobile Trail, Improvements Needed
Mud Lake to Harris Rd	4.6	2B	Alternate	Existing Reservoir Riders Snowmobile Trail, Improvements Needed
Mud Lake to Taft Cut Across	2.2	2C-2	Alternate	Existing FMR, Improvements Needed
Old RR Bed	0.1	2B	Alternate	Existing Reservoir Riders Snowmobile Trail, Improvements Needed
Original Trail Route	0.7	2B	Alternate	Existing Reservoir Riders Snowmobile Trail, Improvements Needed
Private Prop Bypass	0.3	2C-2	Alternate	Existing Forest Management Route, Improvements Needed
Private Prop Bypass	0.3	3	Alternate	New Trail to Avoid Private Property
Taft to Harris Rd	5.0	2C-2	Preferred	Existing RR Grade, Improvements Needed
Third Lake Trail	5.6	2B	Preferred	Existing Reservoir Riders Snowmobile Trail / State Forest Minimum Maintenance Road, Improvements Needed
Third Lake Trail	0.3	3	Preferred	New Trail to Avoid Wetlands
Third Lake Trail Alternate	0.2	2C-2	Alternate	Existing Local ATV Trail, Improvements Needed
Trapper Trail	0.8	2C-1	Preferred	Existing State Forest Road, Improvements Needed
Water Bypass	0.6	2C-2	Alternate	Existing Local ATV Trail, Improvements Needed
Wetlands Bypass for Taft Loop	0.4	2C-2	Preferred	Existing Forest Road, Improvements Needed

Trail Segment	Length (miles)	Route Category	Preferred or Alternate	Description
Wetlands Bypass for Taft Loop	0.2	3	Preferred	New Trail to Avoid Wetlands
Wetlands Bypass for Taft Loop	0.5	3	Alternate	New Trail to Avoid Wetlands

West Lavaque Trails

The West Lavaque Trails consist of approximately 12.5 miles of proposed ATV trail and 11.8 miles of alternate routes (see Figures 5i-1 through 5i-3: West Lavaque). This trail group is intended to enhance connectivity to other portions of the TATR trail system via existing roadway connections.

Preferred trail segments primarily follow existing corridors, including county roads, local ATV trails, and segments of the Hermantown Missing Link Snowmobile Trail system. Use of these existing alignments minimizes the need for new disturbance while supporting integration with the broader trail network. Given the relatively substantial length of alternate routes compared to preferred alignments, this trail group reflects a need to address environmental constraints and land ownership considerations, while maintaining flexibility in final route selection. The inclusion of multiple alternate alignments allows for refinement during design and permitting to ensure avoidance and minimization of impacts to wetlands and other sensitive resources. The West Lavaque Trails are comprised of the following trail segments, with alternate routes identified separately (generally depicted in gray in the figures):

Trail Segment	Length (miles)	Route Category	Preferred or Alternate	Description
Alternative Access #1	0.2	2C-2	Alternate	Existing Local ATV Trail/Forest Management Route, Improvements Needed
Alternative Access #2	0.3	2C-2	Alternate	Existing Local ATV Trail/Forest Management Route, Improvements Needed
Alternative Access #3	0.6	2C-2	Alternate	Existing Local ATV Trail/Forest Management Route, Improvements Needed
Alternative Access #4	0.2	2C-2	Alternate	Existing Local ATV Trail/Forest Management Route, Improvements Needed
Fish Lake Water Access	0.9	2C-2	Preferred	Existing Local ATV Trail/Forest Management Route, Improvements Needed
Industrial Rd Road Route	0.9	1	Preferred	Existing Route, No Improvements Needed
Industrial Rd to Lavaque S	1.3	2C-2	Preferred	Existing Local ATV Trail/Forest Management Route, Improvements Needed
Industrial to Lavaque North	3.0	2C-2	Preferred	Existing Local ATV Trail/Forest Management Route, Improvements Needed
Lavaque Rd Road Route	9.0	1	Alternate	Existing Route, No Improvements Needed
Midway Cut Across	1.4	2C-2	Preferred	Existing Local ATV Trail/Forest Management Route, Improvements Needed

Trail Segment	Length (miles)	Route Category	Preferred or Alternate	Description
Midway Rd Route Connector	0.5	1	Alternate	Existing Route, No Improvements Needed
Midway Rd Route Connector	2.2	1	Preferred	Existing Route, No Improvements Needed
Ugstad to Fish Lake Trail	1.9	2B	Preferred	Existing Hermantown Missing Link Snowmobile Trail, Improvements Needed
Usiak Rd Road Route	1.0	1	Alternate	Existing Route, No Improvements Needed
Water Access Loop	0.7	2C-2	Preferred	Existing Local ATV Trail/Forest Management Route, Improvements Needed

Road Route Connections

The **Road Route Connections** consist of approximately **279.4 miles of proposed ATV trail** and **7.8 miles of alternate routes** (see Figures 5g-1 through 5g-26: Road Route Connections). This trail group is intended to provide critical regional connectivity by linking to the **C.J.**

Ramstad/North Shore State Trail, the **Cloquet–Saginaw State Trail**, and other portions of the **TATR trail system**.

Preferred trail segments primarily utilize **existing corridors**, including public roadways, forest management routes, and segments of the **Wood City Riders Snowmobile Trail system**, as well as limited **new trail development within highway right-of-way (ROW)** where necessary to complete connections. The use of these existing alignments minimizes the need for new disturbance while maximizing connectivity across the broader trail network.

Given the extensive mileage in this category, Road Route Connections represent the **primary framework for system-wide connectivity**, linking major trail groups and providing access to regional destinations. Alternate routes are included to provide flexibility in addressing site-specific constraints such as land ownership, permitting requirements, or environmental resources. Because the majority of these routes occur on existing roadways or previously disturbed corridors, environmental impacts are expected to be limited primarily to signage, minor improvements, or localized upgrades where needed to support safe and sustainable ATV use.

The Road Route Connections are comprised of the following trail segments, with **alternate routes identified separately (generally depicted in gray in the figures)**:

Trail Segment	Length (miles)	Route Category	Preferred or Alternate	Description
3 Lakes Rd	8.1	1	Preferred	Existing Route, No Improvements Needed
3 Lakes Rd to Comstock Lk Rd	6.6	1	Preferred	Existing Route, No Improvements Needed
33 to Scanlon	2.0	1	Preferred	Existing Route, No Improvements Needed
Adams St	0.3	1	Preferred	Existing Route, No Improvements Needed
Becks Rd to Buffalo House Road Route	1.1	1	Preferred	Existing Route, No Improvements Needed
Brandon Rd Route	2.0	1	Preferred	Existing Route, No Improvements Needed

Trail Segment	Length (miles)	Route Category	Preferred or Alternate	Description
Brookston Hwy 2 LUP	1.5	1	Preferred	Existing Route, No Improvements Needed
Brookston to Culver Road	5.1	1	Preferred	Existing Route, No Improvements Needed
Brookston to Turkey Time Trail	8.5	1	Preferred	Existing Route, No Improvements Needed
Burnett to Alborn Road	6.6	1	Preferred	Existing Route, No Improvements Needed
Burnett to Twig	8.6	1	Preferred	Existing Route, No Improvements Needed
Camp 26 to Hwy 53	24.6	1	Preferred	Existing Route, No Improvements Needed
Canyon Connector Road Route	3.9	1	Preferred	Existing Route, No Improvements Needed
Cast Iron Rd Route	10.1	1	Preferred	Existing Route, No Improvements Needed
Cloquet Connector	1.5	1	Preferred	Existing Wood City Riders Snowmobile Trail, No Improvements Needed
Cloquet Connector	0.6	2C-2	Preferred	Existing Local ATV Trail; Improvements Needed
Comstock Lake Rd to Hwy 16	9.6	1	Preferred	Existing Route, No Improvements Needed
Comstock Lk Road Route	6.8	1	Preferred	Existing Route, No Improvements Needed
Cotton to Bug Creek FMR	13.0	1	Preferred	Existing Route, No Improvements Needed
Country Corner Spur	1.0	1	Preferred	Existing Route, No Improvements Needed
CR 7 Road Route	1.7	1	Preferred	Existing Route, No Improvements Needed
CR 8 Road Route	3.7	1	Preferred	Existing Route, No Improvements Needed
CR 862 to Heritage FR	1.2	2B	Preferred	Existing Wood City Riders Snowmobile Trail, Improvements Needed
Crosby Stark Rd Route	4.0	1	Preferred	Existing Route, No Improvements Needed
CSAH 9 and CR 859	2.6	1	Preferred	Existing Route on County Roads, No Improvements Needed
Eastern Doghouse Connector	1.0	3	Preferred	New Trail in Hwy ROW
Echo Valley MX Park Rd Route	0.2	1	Preferred	Existing Route, No Improvements Needed
Fish Lake Dam Road Route	2.8	1	Preferred	Existing Route, No Improvements Needed
Fredenburg to NSST Road Route	10.1	1	Preferred	Existing Route, No Improvements Needed
Freeman Rd Road Route	2.6	1	Preferred	Existing Route, No Improvements Needed
Harris Rd	2.0	2B	Preferred	Existing Reservoir Riders Snowmobile Trail, Improvements Needed
Harris Rd	3.3	1	Preferred	Existing Route, No Improvements Needed
Hwy 33 Connector	1.0	3	Preferred	New Trail in Hwy ROW
Hwy 33 ROW	2.8	3	Alternate	New Trail in MnDOT ROW

Trail Segment	Length (miles)	Route Category	Preferred or Alternate	Description
Hwy 8 Rd Route	9.3	1	Preferred	Existing Route, No Improvements Needed
Independence Rd	1.0	1	Alternate	Existing Route, No Improvements Needed
Lamb Rd	2.1	1	Preferred	Existing Route, No Improvements Needed
Lavaque Spur Road Route	2.6	1	Preferred	Existing Route, No Improvements Needed
Lost Lake Road Route	1.2	1	Preferred	Existing Route, No Improvements Needed
LUP Under I -35	0.3	2C-2	Preferred	Existing Route in Hwy ROW, Improvements Needed
McArthur & Hwy 47	5.5	1	Preferred	Existing Route, No Improvements Needed
Melrude Connector	5.4	1	Preferred	Existing Route, No Improvements Needed
Morris Thomas Connector	0.4	2C-2	Preferred	Existing Local ATV Trail, Improvements Needed
Munger Shaw Rd Route	8.2	1	Preferred	Existing Route, No Improvements Needed
Munger Tavern Spur	0.6	1	Preferred	Existing Route, No Improvements Needed
Munger to Morris Thomas Connector	6.8	1	Preferred	Existing Route, No Improvements Needed
North Cloquet Rd Route	10.9	1	Preferred	Existing Route, No Improvements Needed
Pioneer Bypass	3.3	1	Alternate	Existing Route, No Improvements Needed
Proctor Route 1	1.4	1	Preferred	Existing Route, No Improvements Needed
Proctor to Lumberjack Road Route	13.8	1	Preferred	Existing Route, No Improvements Needed
Proctor to Scanlon	11.8	2C-2	Preferred	Existing Route; Will be Reconstructed in 2027
Saginaw to Burnett Road	7.1	1	Preferred	Existing Route, No Improvements Needed
Saginaw to Union Station Road Route	1.7	1	Preferred	Existing Route, No Improvements Needed
Scanlon Along Hwy 45	0.3	1	Preferred	Existing Route, No Improvements Needed
Scanlon Water Park	0.7	2B	Alternate	Existing Wood City Riders Snowmobile Trail, Improvements Needed
Seville Road Route	0.8	1	Preferred	Existing Route, No Improvements Needed
Shipley Rd Road Route	5.0	1	Preferred	Existing Route, No Improvements Needed
Shipley Spur Connector Trail	1.6	2C-2	Preferred	Existing FMR, Improvements Needed
Solway Rd Road Route	2.9	1	Preferred	Existing Route, No Improvements Needed
Stark Rd Route to Proctor	10.4	1	Preferred	Existing Route, No Improvements Needed
Stoney Brook Road Route	2.0	1	Preferred	Existing Route, No Improvements Needed

Trail Segment	Length (miles)	Route Category	Preferred or Alternate	Description
Swan Lake Rd Road Route	3.3	1	Preferred	Existing Route, No Improvements Needed
Taft Rd	6.0	1	Preferred	Existing Route, No Improvements Needed
Witte Rd Connector	0.2	1	Preferred	Existing Route, No Improvements Needed

Trail Design and Permitting

The trail planning process for the TATR trail system follows the *Minnesota DNR Trail Planning, Design, and Development Guidelines* (2007), which outline the following steps:

1. Project proposal and stakeholder involvement
2. Public notification and comment
3. Environmental review
4. Trail design and construction documents
5. Project permitting
6. Management, monitoring, and stewardship

Trail design for all segments will adhere to the Minnesota DNR guidelines for sustainable natural surface trails, emphasizing long-term durability, minimal maintenance, and protection of natural resources. Construction and improvement activities will follow standard engineering and construction practices appropriate to site conditions.

The proposed trail system prioritizes the use of existing disturbed corridors, including roadways, forest management routes, and snowmobile trails, to minimize new impacts. Where new construction is necessary, alignment selection will emphasize avoidance of wetlands, sensitive habitats, and other constrained areas.

Stormwater Management and BMPs

Prior to ground disturbing activities, contractors will install downgradient stormwater Best Management Practices (BMPs) to control erosion and sediment transport. Specific BMPs will be identified during final design and incorporated into the Stormwater Pollution Prevention Plan (SWPPP). Typical BMPs may include:

- Erosion control blankets on slopes
- Silt fence, biorolls, or filter logs for sediment capture
- Stabilized construction entrances
- Temporary sediment containment measures

BMPs would be designed to meet the requirements of the Construction General Stormwater Permit as applicable.

Trail Construction Methods

Construction will typically utilize light earth moving equipment, such as small excavators and/or skid steers, to minimize disturbance. Depending on soil conditions, construction methods may include:

- Placement of geotextile and geogrid for stabilization
- Excavation to depths of up to approximately 12 inches in unsuitable soils
- Backfilling with gravel or suitable aggregate material
- Placement of fill ranging from approximately 6 to 18 inches above existing grade

All materials used will meet project specifications to ensure a durable surface suitable for ATV

use without excessive rutting or displacement.

Material Sourcing and Handling

Contractors will be responsible for the handling, transport, storage, and disposal of all materials in accordance with applicable local, state, and federal regulations. If necessary, fill will be stored in temporary storage/staging areas. The need and location of temporary storage or staging areas will be determined during the design phase but would be located in upland areas adjacent to the trail corridor to minimize the additional need for transport of fill material.

Materials will be sourced and approved through the contractor procurement process led by the St. Louis County Highway Department, which will serve as the fiscal agent. The contract signed by the selected contractor for each trail segment includes language regarding materials and methods. The contractor will be contractually bound to source materials as specified in the St. Louis County contract language. The following language is included in contracts:

1. All borrow locations must be cleared for invasive plant species prior to use as an approved borrow pit. Request for approval shall be made a minimum of 72 hours prior to utilizing the material source.
2. All finished trail materials must be suitable for adequate and sustained ATV use without excessive rutting or settlement causing excessive trail maintenance.
3. Aggregate Surfacing (LV), Class Special: Pit Run. Mineral soil material free of organics with a maximum aggregate size of 4 inches and no more than 20 percent silt or clay material. Material must bind to a level which is suitable for ATV use without displacement of material. Source material shall be approved by Engineer prior to delivery to site.

The deposition of any brush, soil, or other materials that may need to be excavated and hauled away would be the responsibility of the contractor. Areas used for construction that are not part of the trail surface will be minimal and largely restricted to temporary staging or storage areas. These areas will be sited in upland and will be regraded, seeded with an appropriate native seed mix, and monitored for revegetation per the plan described in the Construction SWPPP and the permit conditions of the Construction Stormwater Permit.

Vegetation Management and Invasive Species Control

Measures to prevent the introduction and spread of noxious and invasive species will be incorporated into all phases of the project, including:

- Cleaning and inspection of equipment prior to arrival on-site
- Use of clean fill and approved material sources
- Prompt stabilization of disturbed areas using native seed mixes (e.g., northeast woodland or wet meadow mixes)

Wood chips or other materials that may promote invasive species establishment will not be used. Signage may be implemented at trailheads to aid in the identification and reporting of noxious/invasive species. Monitoring for noxious and prohibited weeds will be included as part of the trail monitoring and maintenance plans, which will be offered to landowners and land administrators.

Trail Features and Safety Considerations

The proposed trail system will provide designated, safe routes for ATV use while accommodating other compatible uses. Safe routes consider factors such as minimizing conflicts with other uses (e.g., highway vehicle traffic), accommodating maintenance activities, and providing adequate space for two-way traffic. These will be multi-use trails, and signage for ATV use will alert other users (hikers, mountain bikers, and/or equestrians) of ATV use; "stop ahead" signs may be placed at an adequate distance prior to each trail stop sign, to signal an

upcoming intersection. Signage will be consistent with other multi-use trails in the system. Trail widths will allow safe passing for pedestrians. Sustainable trails, as the term is used throughout this document, are those that follow the guiding principles of ecological sustainability as outlined in the *“Trail Planning, Design, and Development Guidelines”* manual (MNDNR, 2007) as follows:

1. Avoid sensitive ecological areas and critical habitats.
2. Develop trails in areas already influenced by human activity.
3. Provide buffers to avoid/protect sensitive ecological and hydrologic systems.
4. Use natural infiltration and BMPs for Stormwater management.
5. Provide ongoing stewardship of the trails and adjoining natural systems.
6. Ensure that trails remain sustainable.
7. Formally decommission and restore unsustainable trail corridors.

Trail design will follow the guiding principles by avoiding sensitive ecological areas and critical habitats by largely improving trails in areas already influenced by human activity. The proposed trail system will use existing corridors to the maximum extent practicable, including co-locating with existing snowmobile trails. The proposer does not anticipate conflict with snowmobile use or winter trail grooming given ATV use would only be seasonal (spring, summer, fall). The segment design will incorporate the following elements:

Trailhead maps, signage, and system kiosks

Newly prepared and installed maps and signage will provide wayfinding and trail markers on new areas of the trail segments. These will also be maintained on existing routes. Signage on public roadways will meet standards as indicated in the *“Minnesota Manual on Uniform Traffic Control Devices”* (MnDOT).

Natural surface trail and drainage crossings

The project will improve or construct natural surface trails that will support safe and sustainable use by ATVs. Natural surface trails typically use native soils and rocky materials as the trail surface, with little or no vegetative cover. To be sustainable, the trails must accommodate the compaction, displacement, and erosion caused trail use. With well-designed trails, abrupt, unanticipated changes in shape through use or erosion should not routinely occur. The tread should also not require major maintenance, reconstruction, or relocation for decades as long as frequent light maintenance is performed.

Drainage crossings occur wherever a trail crosses a waterway, including ephemeral swales that are typically dry except after rainfall. Sustainable trails must maintain flows through the original drainage channels and not direct flows down the trail itself. To be sustainable, drainage crossings must prevent erosion and minimize sediment transfer into drainages. There are four (4) primary options for crossing drainages:

1. Direct crossing – suitable where intermittent and low-flow runoff from a storm does not pose any significant crossing challenged and is sustainable
2. Hardened tread crossing – used where needed to reinforce a channel crossing to handle more intense storm runoff or to harden mud-prone areas
3. Culverts – used for deeper channels and those that carry water for extended periods
4. Built structures – bridges, boardwalks and other such structures are favored over culverts for open and/or flowing water that can support fish.

New/improved stream crossings are opportunities to ensure proper culvert size and placement for fish passage and stream stability. To ensure correctly installed culverts, the proposer will refer to the Minnesota Department of Transportation’s (MnDOT) *“Minnesota Guide for Stream*

Connectivity and Aquatic Organism Passage Through Culverts". Routes were evaluated by TATR to minimize aquatic resource crossings while still following existing trail corridors. Crossings of aquatic resources will be considered on a case-by-case basis during design, based on the unique characteristics of the aquatic resources (i.e., dimensions, flow regime, location, etc.). Culverts, bridges and/or boardwalks may be proposed. All crossings will meet design requirements based on the classification of the aquatic resource (e.g., public waters, trout streams, etc.). Minimization of aquatic resource impacts is required for permitting; therefore, lower impact structures will be used whenever feasible. Evaluation of potential impacts in this document is conservative in assuming more fill impacts than will likely be constructed. Final decision of crossings and evaluation of impacts will occur during the design and permitting phases of each project.

Trail design would also consider compatibility with shared uses. Trail segments co-locating with snowmobile use would typically have a 20-26-foot-wide footprint to accommodate a 16–20-foot top surface for snowmobile groomers. The segments would have a maximum construction width of 26 feet to accommodate shoulders and clearance on either side of the trail depending on the specific design requirements of any new construction, including accommodation of winter use by snowmobile groomers. Routes not shared with snowmobiles are planned for a 12-14-foot-wide drivable top surface. The typical section will have approximately 2% slopes away from the centerline for appropriate drainage. The typical section may be modified based on site conditions in detailed design; in no case would the trail be widened beyond the review area included in this EAW. Typical sections are included as Attachment B.

Maintenance

TATR anticipates that the project will result in increased ATV traffic on existing routes that are currently open to ATV use; however, this increase in use is not expected to require substantial additional maintenance beyond existing efforts. Ongoing maintenance needs – including erosion control, trail-reshaping, and inspection of drainage structures (e.g., culverts and crossings) – will be addressed through the Minnesota DNR Grant-in-Aid (GIA) program. This program involves coordination between the MNDNR, the LGU, and the Club to:

- identify maintenance priorities
- establish routine monitoring schedules
- implement necessary repairs and improvements

Monitoring and stewardship will also be supported by participation in the MNDNR Trail Ambassador Program. This volunteer-based program provides trained individuals who assist with monitoring trail conditions, identifying noxious and invasive species, and promoting safe and environmentally responsible ATV use. Trail ambassadors are trained in the rules and regulations of operating ATVs and guidelines and policies of proper trail use in the recreation area. They are certified to monitor trail conditions, identify noxious/invasive species, and provide first aid. Through field presence and outreach, the goal of trail ambassadors is to help foster user education, compliance, and stewardship, contributing to the long-term sustainability of the trail system.

c. Project magnitude:

Description	Number
Total Project Acreage	2,471.8 acres ¹
Linear project length	509.8 miles
Number and type of residential units	Not Applicable
Residential building area (in square feet)	Not Applicable
Commercial building area (in square feet)	Not Applicable
Industrial building area (in square feet)	Not Applicable
Institutional building area (in square feet)	Not Applicable
Other uses – specify (in square feet)	Not Applicable
Structure height(s)	Not Applicable

¹Total project acreage utilizes the linear project length and a 40-foot-wide review corridor.

d. Explain the project purpose; if the project will be carried out by a governmental unit, explain the need for the project and identify its beneficiaries.

The purpose of the TATR ATV Trail System is to provide safe access to sustainable riding surfaces, enhance connectivity between communities, and promote compatible ATV use on **designated roads and trails** where such use is allowed.

Increasing interest in ATV recreation in **northern Minnesota** has prompted development of the proposed trail system. The project is intended to meet growing demand while improving the safety, organization, and sustainability of ATV use across the region. The TATR ATV Trail System is designed to connect communities within **Carlton and St. Louis counties** and to integrate with a broader regional network of off-highway vehicle (OHV) opportunities. The system includes connections to State Forest Roads, Minnesota GIA trails, and other local and regional ATV trail systems.

The TATR trail system spans a broad geographic area that includes multiple cities, townships, and unorganized territories within Carlton and St. Louis counties. The project area communities include:

City	Township	Township
Brookston	Alborn	Gnesen
Cloquet	Arrowhead	Grand Lake
Floodwood	Ault	Industrial
Hermantown	Brevator	Midway
Proctor	Canosia	New Independence
Scanlon	Colvin	Normanna
Unorganized Territory	Cotton	Northland
Heikkala Lake	Culver	Solway
Whiteface Reservoir	Ellsburg	Stoney Brook
	Fredenberg	Thomson

e. Are future stages of this development including development on any other property planned or likely to happen? ☐ Yes ☒ No

If yes, briefly describe future stages, relationship to present project, timeline and plans for environmental review.

f. Is this project a subsequent stage of an earlier project? ☐ Yes ☒ No

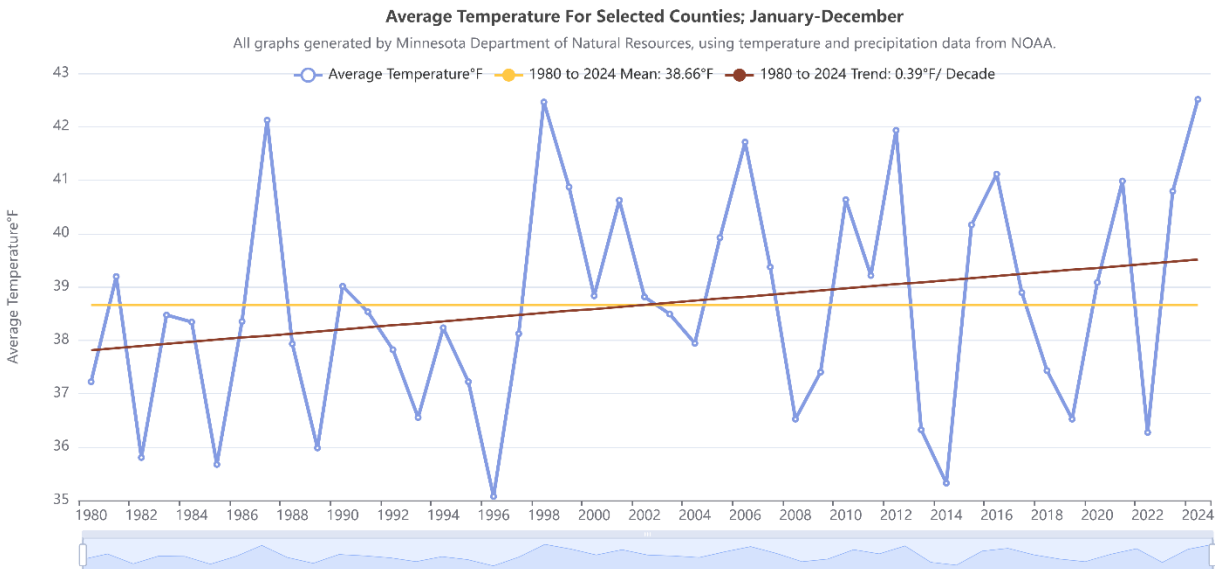
If yes, briefly describe the past development, timeline and any past environmental review.

7. Climate Adaptation and Resilience:

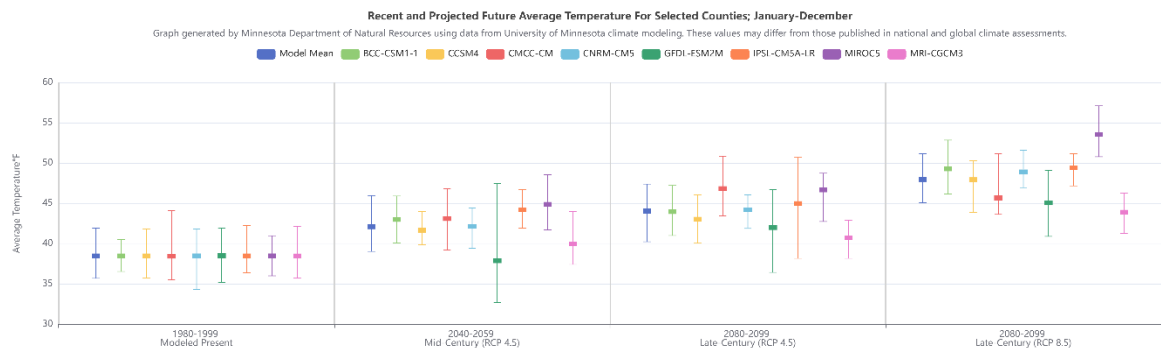
- a. Describe the climate trends in the general location of the project (see guidance: *Climate Adaptation and Resilience*) and how climate change is anticipated to affect that location during the life of the project.

In general, climate change projections for Minnesota predict a warmer and wetter climate, with more frequent extreme precipitation events. According to the MNDNR, between 1895 and 2020 (period of record) Minnesota has warmed by 3.0 degrees Fahrenheit and annual precipitation increased by an average of 3.4 inches across the state⁵.

In more recent years, climate data available through the Minnesota Climate Explorer⁶ demonstrates that the historical average annual temperatures recorded in St. Louis and Carlton counties have increased from 1980 to 2024, on average 0.39 degrees Fahrenheit per decade.



Modelling results from the University of Minnesota (as hosted on the Minnesota Climate Explorer³), predict that average temperatures for St. Louis and Carlton counties will continue to warm into the late century (2099).

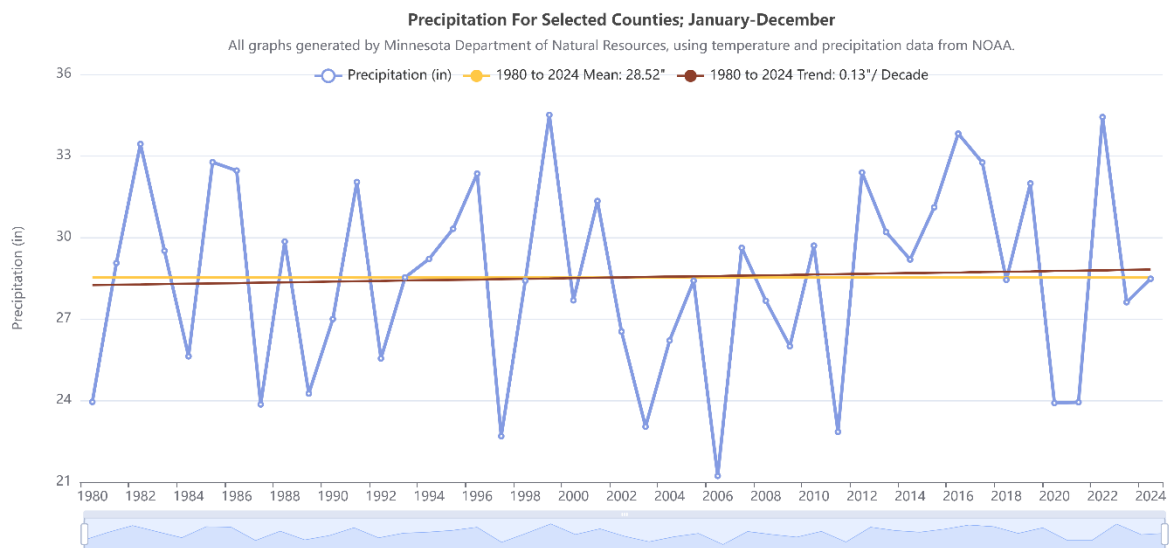


Climate data available through the Minnesota Climate Explorer³ demonstrates precipitation recorded in St. Louis and Carlton counties has increased from 1980 to 2024 at a rate of

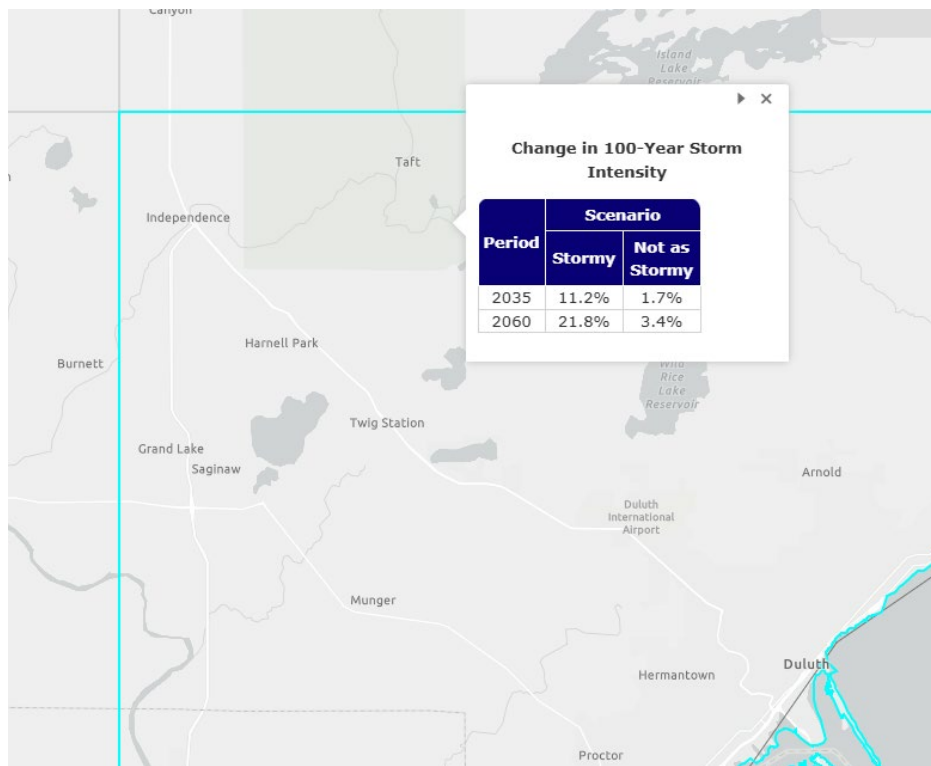
⁵ [Climate trends | Minnesota DNR](#)

⁶ [Minnesota Climate Explorer](#)

approximately 0.13 inches per decade. Climate projections for Minnesota predict that the days per year with more than one-inch of precipitation will increase⁷.



The CREAT Climate Scenarios Projection Map⁸ provides projections of storm intensification. The 2035 and 2060 projections for the project area indicate that more “intense” storms are anticipated for both the “storm” and “not as stormy” projections.



Climate change impacts in the project area would likely include warmer temperatures and more periods of drought interspersed by heavy precipitation events causing flooding. In the

⁷ [Minnesota Climate Projections \(CMIP5\) | UMN Climate Adaptation Partnership](#)

⁸ [CREAT Climate Change Scenarios Projection Map](#)

context of the proposed project, a wetter climate has the potential to impact ATV trails. Increased precipitation may increase opportunities for trail rutting, erosion, or destabilization. These factors would be mitigated through trail design in areas that may be subject to such risks. Trail design would include utilizing culverts, bridges, boardwalks, and native vegetation establishment. Ultimately, trail conditions would be monitored, and maintenance actions completed as needed.

- b. For each Resource Category in the table below: Describe how the project's proposed activities and how the project's design will interact with those climate trends. Describe proposed adaptations to address the project effects identified.

The table below has been revised according to the MPCA's *Environmental Assessment Worksheet Form Section/Item 7 Guidance* document dated October 2024⁹.

Resource Category	Climate Trends and Climate Projections	Project Component	Potential Environmental Effects	Adaptation Strategies
Project Design	Average annual temperature increasing	Tree and shrub clearing in approximately 60.8 acres; 26-foot-wide-clearing limits by 19.3 miles (7.8 preferred, 11.5 alternate) of new trail	The loss of natural vegetation may result in elevated surface and air temperatures through the loss of shade and cooling through evapotranspiration.	Removal of trees and shrubs is minimized to the trail corridor.
		Increased amount of constructed surfaces (expansion of trail system)	Constructed surfaces (i.e., trails with aggregate), can contribute to increased temperatures, as these surfaces absorb high heat loads which can increase air temperature through heat convection.	Trail corridors are minimized to the greatest extent to allow the specified equipment (i.e., ATVs, or ATVs and snow-grooming equipment where trails are shared with snowmobiles).
		Increased use of trails by ATVs	Increased use of trails by ATVs contributes to greenhouse gas emissions through the combustion of fuel. Greenhouse gas emissions contribute to rising global temperatures.	Trail users are encouraged to implement practices to reduce greenhouse gas emission, including the avoidance of idling.
	Average annual precipitation increasing	Tree and shrub clearing in approximately 60.8 acres; 26-foot-wide-clearing limits by 19.3 miles (7.8 preferred, 11.5 alternate) of new trail	The loss of natural vegetation may result in increased runoff, where plants are not taking up water and stabilizing soils.	Removal of trees and shrubs is minimized to the trail corridor. Establishment of native vegetation in disturbed areas may slow flow and help infiltrate runoff.
		Increased amount of constructed surfaces (expansion of trail system)	Constructed surfaces and structures may increase runoff	Trails will be designed to include culverts, bridges, and/or boardwalks where necessary, in order to allow sustainable use.
		Increased use of trails by ATVs	Increased use of trails by ATVs may result in erosion of deterioration of trails due to increased precipitation.	Trail closures may occur during period of heavy, damaging rainfall, or in spring thaw conditions, to minimize any damage to trails and erosion or sedimentation into adjacent aquatic resources. Trail

⁹ [Environmental Assessment Worksheet \(EAW\) Form Section/Item 7 Guidance](#)

Resource Category	Climate Trends and Climate Projections	Project Component	Potential Environmental Effects	Adaptation Strategies
				closures would be posted on the Club's website / social media accounts and at trailheads.
	Heavier, more damaging rains	Tree and shrub clearing in approximately 60.8 acres; 26-foot-wide-clearing limits by 19.3 miles (7.8 preferred, 11.5 alternate) of new trail	The loss of natural vegetation may result in increased runoff, where plants are not taking up water and stabilizing soils.	Removal of trees and shrubs is minimized to the trail corridor. Establishment of native vegetation in disturbed areas may slow flow and help infiltrate runoff.
		Increased amount of constructed surfaces (expansion of trail system)	Heavier, more damaging rainfall is expected to increase runoff, which may be amplified by the constructed surfaces. The project is anticipated to improve trails with erosion problems, through the placement of fill.	All trails will be designed in such a way to allow stormwater to best flow away from trails and infiltrate groundwater systems. Culverts will be installed where needed.
		Increased use of trails by ATVs	Increased use of trails by ATVs may compact trails and surrounding soils, which may lead to the potential for increased runoff. ATV use during heavy rain conditions may result in rutting of trails and increase sedimentation.	Trail closures may occur during period of heavy, damaging rainfall, or in spring thaw conditions, to minimize any damage to trails and erosion or sedimentation into adjacent aquatic resources. Trail closures would be posted on the Club's website / social media accounts and at trailheads.
	Increasing risk of heatwaves	Tree and shrub clearing in approximately 60.8 acres; 26-foot-wide-clearing limits by 19.3 miles (7.8 preferred, 11.5 alternate) of new trail	The loss of natural vegetation may result in elevated surface and air temperatures through the loss of shade and cooling through evapotranspiration.	Removal of trees and shrubs is minimized to the trail corridor.
		Increased amount of constructed surfaces (expansion of trail system)	Constructed surfaces may be more vulnerable to damage and deterioration from elevated temperatures. Constructed areas evaporate less water which contributes to elevated surface and air temperatures.	Trail corridors are minimized to the greatest extent to allow the specified equipment (i.e., ATVs, or ATVs and snow-grooming equipment where trails are shared with snowmobiles).
		Increased use of trails by ATVs	Increased use of trails by ATVs has the potential to increase risk of fires.	Signage should include warnings to avoid idling/parking in tall vegetation. Trails may provide opportunity for improved firefighting equipment access and firebreaks. The project proposer, in coordination with MNDNR, will evaluate temporary closures during extreme drought conditions. Fire danger warnings are typically posted at USFS signage locations. Fire danger warnings are also posted on the

Resource Category	Climate Trends and Climate Projections	Project Component	Potential Environmental Effects	Adaptation Strategies
				Club's website/social media accounts and at trailheads.
	Increasing risk of drought	Tree and shrub clearing in approximately 60.8 acres; 26-foot-wide-clearing limits by 19.3 miles (7.8 preferred, 11.5 alternate) of new trail	The loss of natural vegetation, which plays a crucial role in evapotranspiration.	Tree and shrub clearing is minimized to the greatest extent possible and is only proposed for the trail corridor.
		Increased amount of constructed surfaces (expansion of trail system)	Constructed surfaces can be affected by drought if the surface becomes dry, compacted, and erodible.	Utilize materials that are resilient to drought conditions where possible. Monitor for erosion.
		Increased use of trails by ATVs	Increased use of trail by ATVs can be affected by drought if trails become dry and erodible.	Monitor trails for erosion; trail closures when site conditions do not allow sustainable use of trails.
Land Use	Address in item 10	Address in item 10	Address in item 10	Address in item 10
Water Resources	Address in item 12	Address in item 12	Address in item 12	Address in item 12
Contamination/Hous Materials/Wastes	Address in item 13	Address in item 13	Address in item 13	Address in item 13
Fish, wildlife, plant communities, and sensitive ecological resources (rare features)	Address in item 14	Address in item 14	Address in item 14	Address in item 14

8. Cover types:

Estimate the acreage of the site with each of the following cover types before and after development:

Cover Types	Before (acres)	After (acres)
Wetlands and shallow lakes (<2 meters deep) ¹	84.9	40.0
Deep lakes (>2 meters deep)	0.7	0.7
Wooded/forest ²	93.6	32.8
Wooded/forest with Cleared Corridor ³	241.1	241.1
Rivers/streams	4.8	4.8
Brush/Grassland	60.7	60.7
Cropland	0	0
Livestock rangeland/pastureland	24.7	24.7
Lawn/landscaping	415.5	415.5
Green infrastructure TOTAL (from table below*)	0	0
Impervious surface (representing existing Category 1 routes)	940.4	940.4
Stormwater Pond (wet sedimentation basin)	0	0
New non-paved Trail ⁴	605.4	711.1
TOTAL	2,471.8	2,471.8

¹This cover type change represents the intersection of National Wetlands Inventory (NWI) mapped wetlands and trail categories 2 and 3. Particularly in existing corridors, trails may already run on upland improved grades not shown on the NWI. In addition, minor alignment changes may allow wetland avoidance or impact minimization. However, the NWI may miss smaller wetlands not visible on aerial photography. This table presents an estimate of the wetland impact due to the trail segments. Prior to any trail construction, a wetland delineation will be completed to quantify the wetland impacts.

²This cover type represents the area of existing undeveloped forest that proposed Category 3 trails (preferred and alternate) comprise pre-project.

³ This cover type represents the wooded / forest areas that are adjacent to existing Category 2 trails. No work outside the existing corridors is proposed, therefore these areas are proposed to remain intact.

³ New non-paved trails will meet the definition of natural surface trail: “soft surfaced, follows the contours of the land, and is much more susceptible to natural forces” (MN DNR 2007). Natural surface trails are shaped into the landscape being traversed and to provide interesting nuances of a site for the trail user. Hardening would be minimized and would take place only where the existing surface is not sustainable for ATV use. Trail design specifications would maintain a pervious surface, through methods such as selection of proper granular material. The proposer understands that certain improvements (some surfacing materials) may be considered impervious. Precise locations and materials would be evaluated in design of each segment needing improvements. Permitting and stormwater treatment would be provided accordingly for segments reaching acreage thresholds triggering permitting, if any.

Green Infrastructure*	Before (acreage)	After (acreage)
Constructed infiltration systems (infiltration basins/infiltration trenches/ rainwater gardens/bioretention areas without underdrains/swales with impermeable check dams)	0	0
Constructed tree trenches and tree boxes	0	0
Constructed wetlands	0	0
Constructed green roofs	0	0
Constructed permeable pavements	0	0
Other (describe)	0	0
TOTAL*	0	0

<u>Trees</u>	<u>Percent</u>	<u>Number</u>
Percent tree canopy removed or number of mature trees removed during development	2.5% ¹	725-965 ¹
Number of new trees planted	0	0

¹Tree-clearing will be avoided and minimized to the greatest extent possible during construction. Clearing for new trail (Category 3) will have flexibility to route around mature trees, leaving the canopy intact even in areas of new corridor clearing. For neighboring ATV Clubs, a density of 37.5 trees removed per mile of new trail has been utilized to calculate the number of trees removed for new trail construction; this ratio is included as the minimum number of trees removed. For TATR, a maximum density of 50 trees removed per mile of new trail has been used as the maximum density of trees removed. The overall percent of tree canopy removed from the

landscape for the 19.3 miles of new trail included in the EAW (7.8 preferred, 11.5 alternate) will be negligible. It is possible for some localized clusters of trees to be removed in certain areas throughout the review area may result in a noticeable loss of canopy at that specific location. However, due to the scale of the project and the minimal tree removal required, an overall loss of canopy is not expected.

9. Permits and approvals required:

List all known local, state and federal permits, approvals, certifications and financial assistance for the project. Include modifications of any existing permits, governmental review of plans and all direct and indirect forms of public financial assistance including bond guarantees, Tax Increment Financing and infrastructure. *All of these final decisions are prohibited until all appropriate environmental review has been completed. See Minnesota Rules, Chapter 4410.3100.*

Potential funding sources for these trail segments include the Legislative-Citizen Commission on Minnesota Resources (LCCMR), state bonding funds, and the state off-road vehicle dedicated fund. The table below shows permits and approvals anticipated for the project.

Unit of Government	Type of Application	Status
Fond du Lac Band	Tribal Approval	To be obtained
Minnesota Pollution Control Agency (MPCA)	National Pollutant Discharge Elimination System (NPDES) Construction Stormwater Permit	To be obtained
MPCA	Section 401 Clean Water Act (CWA) Water Quality Certification	To be obtained
St. Louis County	Letter of Authorization	To be obtained
Carlton County	Letter of Authorization	To be obtained
Wetland Conservation Act (WCA) Administrator/Authority	WCA Wetland Delineation Boundary and Type Approval	To be obtained
WCA Administrator/Authority	WCA Replacement Plan	To be obtained
MNDNR	Public Waters Work Permit	To be obtained
MNDNR	Takings Permit	To be obtained if needed
MNDNR	ATV Grant-in-Aid Trail Application	To be obtained
MNDNR	Recreational Lease	To be obtained if needed
MN Department of Transportation (MnDOT)	Right-of-Way Permit / Limited Use Permit	To be obtained
U.S. Army Corps of Engineers	Section 404 CWA Permit	To be obtained
Cities and Townships	Zoning or other approvals	To be obtained
Private Landowners	Easement or other permission	To be obtained

The following trail segments will require a Limited Use Permit (LUP) from MnDOT for trails placed in MnDOT ROW (Figure 4):

Trail Group	Trail Name	Length of Trail where LUP is needed (miles)	Route Category
Cross Roads Connector	Cross Roads Connector	1.0	2C-2
Cross Roads Connector	Cross Roads Connector	0.6	2C-2
Floodwood Loop	Hwy 8 & CR 965 Road Route	0.3	1
Lumberjack to Brookston	Skyline Connector	0.03	2C-2
Lumberjack to Brookston	Lumberjack to Highway 2	0.4	2B
Lumberjack to Brookston	Lumberjack to Highway 2	1.5	3
Lumberjack Extension	Hwy 8 Rd Route	0.1	1
Road Route Connections	33 to Scanlon	0.2	1
Road Route Connections	Brandon Rd Route	0.03	1
Road Route Connections	Brookston Hwy 2 LUP	1.5	1
Road Route Connections	Brookston to Turkey Time Trail	0.04	1
Road Route Connections	Burnett to Twig	0.2	1
Road Route Connections	Cast Iron Rd Route	0.1	1
Road Route Connections	Cloquet Connector	1.5	1
Road Route Connections	Cloquet Connector	0.6	2C-2
Road Route Connections	Cotton to Bug Creek FMR	0.1	1
Road Route Connections	CR 8 Road Route	0.1	1
Road Route Connections	CR 862 to Heritage FR	1.2	2B
Road Route Connections	Crosby Stark Rd Route	0.1	1
Road Route Connections	Eastern Doghouse Connector	1	3
Road Route Connections	Echo Valley MX Park Rd Route	0.02	1
Road Route Connections	Harris Rd	0.04	1
Road Route Connections	Hwy 33 Connector	1	3
Road Route Connections	Hwy 33 ROW	2.8	3
Road Route Connections	LUP Under I -35	0.3	2C-2
Road Route Connections	McArthur & Hwy 47	0.1	1
Road Route Connections	Munger Shaw Rd Route	0.1	1
Road Route Connections	Munger Tavern Spur	0.1	1
Road Route Connections	Munger to Morris Thomas Connect	0.1	1
Road Route Connections	North Cloquet Rd Route	0.1	1
Road Route Connections	Proctor to Lumberjack Road Route	0.1	1
Road Route Connections	Proctor to Scanlon	0.04	2C
Road Route Connections	Saginaw to Burnett Road	0.1	1
Road Route Connections	Saginaw to Union Station Road Route	0.1	1
Road Route Connections	Shipley Rd Road Route	0.01	1
Road Route Connections	Shipley Spur Connector Trail	0.01	2C-2
Road Route Connections	Solway Rd Road Route	0.04	1
Road Route Connections	Stark Rd Route to Proctor	0.01	1
Taft to Canyon	Independence FR Spine Trail	0.02	2B

Although not a formal permit or approval, a MNDNR Parks and Trails (PAT) Resource Assessment (RA) is needed for projects occurring on PAT-administered lands. The RA incorporates regulations, statutes, policies, guidelines, and plans, some of which are division specific. State Trails are to be managed to provide a travel route through an area with minimal disturbance of the natural environment and recognizing other multiple land use activities. Resources Specialists with PAT implement the RA process to incorporate comments from other MNDNR staff including NHIS findings. Resources Specialists inform PAT leadership about project impacts so that informed decisions can be made about projects occurring on PAT administered lands and State Trails.

Current and ancestral lands of the Fond du Lac Band of Lake Superior Chippewa are in the vicinity of the proposed project. Some of the proposed project routes cross through tribal lands (see Figures 5a-3, 5a-5, 5a-6); the proposed trail alignments will be submitted to the Fond du Lac Band of Lake Superior Chippewa for their Cultural Resources Review. The Proposer understands that tribal coordination is recommended prior to and throughout the survey process for archeological and cultural resources.

Cumulative potential effects may be considered and addressed in response to individual EAW Item Nos. 10-20, or the RGU can address all cumulative potential effects in response to EAW Item No.22. If addressing cumulative effect under individual items, make sure to include information requested in EAW Item No. 21.

10. Land use:

a. Describe:

- i. Existing land use of the site as well as areas adjacent to and near the site, including parks and open space, cemeteries, trails, prime or unique farmlands.

The area encompassing the TATR System includes several townships, unorganized territories and cities, in St. Louis and Carlton counties:

City	Township	Township
Brookston	Alborn	Gnesen
Cloquet	Arrowhead	Grand Lake
Floodwood	Ault	Industrial
Hermantown	Brevator	Midway
Proctor	Canosia	New Independence
Scanlon	Colvin	Normanna
Unorganized Territory	Cotton	Northland
Heikkala Lake	Culver	Solway
Whiteface Reservoir	Ellsburg	Stoney Brook
	Fredenberg	Thomson

Land use in the area is primarily rural, with undeveloped forested lands, and rural residential properties. More suburban land use is present in the cities and town centers of the townships. Some of the trail alignments are situated along city streets in the City of Cloquet, which is authorized under Chapter 5.6.04 of City Code.

Proposed trail segments are co-located on several grant-in-aid (GIA) managed snowmobile trails, including Reservoir Rider Trails, Hermantown Missing Link Trails, Wood City Riders (Cloquet) Trails, and Alborn Trails. Snowmobile trails are logical routes for ATV trail placement, because they have been previously cleared to allow for recreational use by snowmobiles (Category 2B trails). Some segments of snowmobile trail traverse vast wetlands, which will not be preferred for construction; in these locations, alternative routes through undeveloped upland (Category 3 - new trail) are proposed as the preferred route.

Land ownership is comprised of county fee, federal, municipal, private, state, tax forfeit, and tribal lands. Most of the proposed trail system is located on existing forestry roads, county roads, within road right-of-way, local ATV trails, snowmobile trails, and/or railroad grade.

State Forest

Portions of the proposed trail system are within the boundary of the Cloquet Valley State Forest (CVSF) and Riverlands State Forest; non-motorized areas of the CVSF have been excluded for trail development planning.

Currently, the MNDNR is undergoing State Forest Planning for the CVSF and Riverlands State Forest. TATR understands that the outcome of these planning efforts may affect areas included in the proposed trail system. All future trail projects will be coordinated with the MNDNR to ensure TATR's proposed trail system is aligned with the results of the State Forest Planning.

Other State Lands

Regional lands outside of the project area are mainly used for residential or recreational purposes, such as hiking, camping, fishing, canoeing, viewing wildlife, snowmobiling, cross-country skiing, ATV trail riding, etc. The greater area includes several Wildlife Management Areas (WMA), including the Floodwood, Little Whiteface River, Canosia, Zim, Sax, Fermoy, Herding Islands, Gichigami Ziibi, and Anchor Lake WMAs; Scientific and Natural Areas (SNA), including the Moose Mountain, Hemlock Ravine, and Minnesota Point Pine Forest SNAs; and State Parks, including Jay Cooke and Savanna Portage.

The nearest SNA is the Hemlock Ravine, which is approximately 2.5 miles south of the nearest trail segment; the nearest state park is Jay Cooke, which is approximately 1.7 miles south of the nearest trail segment. Increased accessibility to these areas is not anticipated to result from the proposed project. The Gichigami Ziibi WMA is within 330 feet of the Proctor to Scanlon route. The route does not intersect this WMA and no impacts are anticipated.

Canosia WMA

The nearest WMA is Canosia, which is directly adjacent to the West Lavaque Trails. WMAs are generally closed to motorized use with the exception of posted trails and areas. Unauthorized access to the Canosia WMA by ATV users has the potential to result from increased accessibility from neighboring ATV trails; however, the proposed alignments adjacent to the Canosia WMA are already used by local ATV riders.

TATR has coordinated with the MNDNR on the submittal of the proposed trails segments included in the EAW through an early coordination review process. During this process, MNDNR PAT requested proposed trails that connect to Hunter Walking Trails (HWTs) be removed from TATR's proposed system, specifically HWTs in the Canosia WMA and the CVSF near Boulder Lake. TATR has reviewed the trails, and removed segments that provide a direct connection to HWTs in the Canosia WMA.

During trail design and permitting, TATR would ensure that there are barricades or gates placed in any location where ATVs may have access to HWTs. Any individual operating an ATV in an unauthorized location will be subject to the appropriate enforcement action. TATR promotes trail stewardship including adherence to trail restrictions.

TATR was notified during early coordination review that there have been discussions between MNDNR and St. Louis County on expanding the Canosia WMA to the west, which would intersect portions of TATR's proposed trail system. TATR is committed to working with the MNDNR and St. Louis County to ensure trails are designed and permitted through the appropriate agencies, however, since the WMA expansion is not confirmed, TATR has opted to keep these trail segments in the EAW for the planning

phase of the project. St. Louis County has indicated their support for the inclusion of these routes and has indicated that it seems most reasonable and efficient to include these routes in the EAW to facilitate analysis of the proposed trail system route. It is acknowledged that deciding the final designated route is still in process, but the EAW will help in this process.

When TATR begins their trail development in this area, they will coordinate directly with MNDNR and St. Louis County regarding the viability of a WMA expansion, to focus their trail design and permitting efforts.

Boulder HWT

During early coordination review, three (3) proposed trail segments adjacent to the Boulder HWT were discussed having potential access issues:

1. Wood Duck to Twin Lakes Rd – Category 2C-2
2. Twin Lakes Rd - Private Property Alt – Category 3
3. A portion of the Wood Duck Trail (from Wood Duck to Twin Lakes Rd to Wood Duck Trail – South Route) – Category 3

The proposed ATV trail segments don't directly intersect with the Boulder HWTs, but the proximity could lead to a trespass on the non-motorized HWTs. TATR reviewed the request but believes these proposed trail segments to be viable alignments and sees value in including them in review for potential environmental effects. The three (3) trail segments are included as alternate routes (not preferred) and provide a vital connection on public land. Alternate routes are included in the EAW, some of which are situated on private property. If private property owners were to be unwilling to grant easements to TATR, there would not be any other viable reroutes that were considered during the environmental review process. The selected route would be determined prior to the design and permitting phases of these projects, and will be coordinated with MNDNR.

Farmland and Timber Lands

The project crosses soil units mapped as prime farmland (prime farmland, farmland of statewide importance, and prime farmland if drained) in 24 locations (Web Soil Survey, accessed June 2026). None of the proposed or existing trail corridors are being farmed. Pasture or hayfields may occur adjacent to trail corridors in some areas, but no farmland conversion is proposed. There are no known incompatibilities between the proposed ATV trail use and agriculture.

Timber lands owned by the State of Minnesota within the project area might be, or can be, used for logging. Forest cover types on the MNDNR-managed lands across the project area consist of upland and lowland timber cover types that are actively managed. MNDNR and county lands within the project area are subject to ongoing, active timber sale contracts. The proposer may be responsible for reimbursing the value of timber production ("timber damages") in forested areas converted to new trail use. Trail use in MNDNR-managed lands would adhere to closures as needed. Trail closures due to logging would be posted on the Club's website and at trailheads, as this information becomes available.

Overall, the land use of the areas around the proposed project are used for silviculture, water quality protection, forest recreation, and managed trail use. Land use would remain similar under all route categories with main use changes as follows:

- Route Category 2 (2B, 2C, 2D): Existing trail corridors are already cleared of woody vegetation for snowmobiles or other vehicles. These routes would have a new use for ATV travel, but adjacent lands would remain similar (recreational, silvicultural, etc.).
 - Route Category 3: New trail construction would require clearing a corridor through naturally vegetated areas or constructing trail in road ROW in areas that do not currently have an existing trail, path, or road. 19.3 miles of new trail included in the EAW (7.8 preferred, 11.5 alternate) are located on tax forfeit, state, MnDOT ROW, and private lands.
- ii. Plans. Describe planned land use as identified in comprehensive plan (if available) and any other applicable plan for land use, water, or resources management by a local, regional, state, or federal agency.

Carlton County

Carlton County's Forest Management Plan¹⁰ identifies the following objective:

"Carlton County intends to provide quality opportunities for dispersed recreation (e.g., trails, hunting, wildlife watching)"

And includes the following policy:

"Allow the use of motorized recreational vehicles including four wheel drive trucks, all-terrain vehicles (ATVs), motorcycles, and snowmobiles on County managed roads and trails except where expressly prohibited for valid management reasons including, but not limited to, protection of tree plantations, protection of sensitive natural resources (e.g., wetlands, highly erodible soils, certain types of wildlife habitat and/or biotic communities, etc.), and non-motorized hunting."

Carlton County's Community-Based Comprehensive Plan (2001) identifies strategies to maintain aquatic ecosystems capable of health populations of native fish species within the natural waterways of the County, including limiting the number of ATV crossings. An objective of the Carlton County Community-Based Comprehensive Plan includes providing citizens with recreational and educational opportunities, which emphasize natural, cultural, and historic resources. A proposed strategy to meet this objective is "Plan cooperatively for the use of Off-Highway Vehicles." No other goals, objectives, or strategies mention ATVing or similar activities.

In 2017, Carlton County Ordinance 33 opened all County managed roads to ATV use on the extreme right of the road or shoulder, providing for the connection between trails.

St. Louis County

St. Louis County's Comprehensive Land Use Plan (2019) includes Recreation and Tourism Goals, Objectives, and Implementation (pages 52-53 of the plan). The goals and objectives are:

Goal R-1: "Preserve opportunities for outdoor recreation in St. Louis County." Objective R-1.1 "Where possible, use the Future Land Use Maps and county ordinances to guide intensive development, such as residential subdivisions or industry, to areas with

¹⁰ [Recreation](#)

supporting infrastructure and services, and away from forestry and agricultural areas appropriate for hunting and other outdoor activities.” Objective R-1.2 “Work with local, state, and federal agencies to improve and promote existing lake and river access points.”

Goal R-2: “Promote regional trail development and maintenance.” Objective R-2.1 “Work with local communities, advocacy groups, and others to expand the regional trail system and to maintain and expand opportunities for all possible user types. Prioritize links that are identified in county and regional trail plans.” Objective R-2.2 “Protect existing trails and support permanent easements through private lands to help facilitate trail maintenance and construction.

Further, St. Louis County Ordinance #64 provides an opportunity for ATV clubs to request county approval for a corridor access trail within county road right-of-way.

The Minnesota ATV Strategic Master Plan

The Minnesota ATV Strategic Master Plan addresses key topics of ATV trail maintenance, system connectivity, funding processes, user engagement, ATV policy, and user trends. Respondents surveyed in the Minnesota ATV Strategic Master Plan ranked trail connectivity as a top priority. The ability to connect between trail systems and to key destinations and service areas is an important component of a high-quality recreation experience.

Northeast Regional Joint Point Board ATV Master Plan

The Northeast Regional Joint Powers Board ATV Master Plan (Plan) serves as a comprehensive guide for the planning, permitting, design, and construction of all-terrain vehicle (ATV) trail systems in the counties of St. Louis, Lake, and Koochiching in northeastern Minnesota. Developed by the Northeastern Regional ATV Joint Powers Board (JPB) in collaboration with 15 regional ATV clubs, state and federal agencies, and local government units, this plan aligns with key recommendations from the Minnesota All-Terrain Vehicle Strategic Master Plan and aims to improve trail connectivity, sustainability, and economic impact.

Key objectives identified in the Plan include:

- Stakeholder Collaboration: Engaging local ATV clubs, government agencies, and community members to ensure coordinated trail planning, maintenance, and funding efforts.
- Enhancing Trail Connectivity: Expanding and improving the ATV trail network to better connect communities, key destinations, and existing trail networks.
- Sustainable Trail Development: Implementing environmentally responsible design and construction practices to minimize ecological impact.
- Economic Impact: Developing a trail system that recognizes the significance of existing economic activity and provides efficient connections between riding areas, service areas and communities.

Federal Land

The 2004 Superior National Forest Land and Resource Management Plan¹¹ specifies the Semi-primitive Motorized (SPM) Recreation Management Area, which emphasizes land and resource conditions that provide recreational opportunities in nearly primitive surroundings, where motorized use is allowed. The SPM Recreation Management Area is in parts of the Superior National Forest (SNF) with roads and trails, where management

¹¹ [Superior National Forest | Planning | Forest Service](#)

activities (i.e., timber management) are not very noticeable.

State Forestry and Forest Classification and Road/Trail Designation

The project is located within areas identified under the Forest Classification & Road/Trail Designation Plan for MNDNR Forestry-Administered Lands in Southern St. Louis and Carlton Counties (April 2007)¹². The MNDNR Division of Forestry anticipates future harvest would occur within the project boundary, and all MNDNR-prescribed harvest activity is considered. In addition to evaluating forest classification and retaining or modifying current classification as appropriate, the 2008 Plan identifies "...those forest roads and trails that the MNDNR proposes to officially (un)designate for various motorized and non-motorized purposes within the planning area."

The MNDNR is reviewing all state forest trail systems to identify measures to improve trail sustainability and enhance user experiences for both motorized and non-motorized uses. The project will provide trail connections, add new trails, change allowable trail uses, and close unsustainable trails.

State forest trail designations (e.g., allowing motorized use, creating hunter walking trails, etc.), whether new designations or revisions, must be made by a Commissioner's Order published in the State Register.

TATR is aware that MNDNR is undergoing State Forest Planning for the CVSF and Riverlands State Forest and understands that the outcome of these planning efforts may affect areas included in TATR's proposed trail system. All future trail projects will be coordinated with the MNDNR to ensure TATR's proposed trail system are in alignment with the results of the State Forest Planning.

The St. Louis River Watershed Landscape Stewardship Plan does not mention ATVs or concerns about fragmentation specifically due to trails/road.

The MN Wildlife Action Plan references habitat fragmentation as a stressor for wildlife.

- iii. Zoning, including special districts or overlays such as shoreland, floodplain, wild and scenic rivers, critical area, agricultural preserves, etc.

The project is not located within a wild and scenic river corridor, critical area, or agricultural preserve.

Mapped floodplain intersects the project at several locations throughout the review area. Mitigative design elements would be incorporated into any work proposed in a mapped floodplain to avoid impacts; proposed improvements at these locations may consist of boardwalk or bridge placement, where necessary. Trail surfacing would generally not be considered a floodplain impact that would reduce flood storage or increase flood stage, therefore impacts to floodplain are not anticipated.

Portions of the project are located within shoreland area, which is defined by local ordinance as land within 1,000 feet of a lake, pond, or flowage, and 300 feet of a stream or river, or the landward coverage of its designated floodplain. Local shoreland ordinances apply to waters included in the Public Waters Inventory. The entities with zoning authority over the proposed project routes include St. Louis County, Carlton County, and local

¹² [Microsoft Word - CVPlan.doc](#)

governments. The portion of the proposed project located within shoreland includes:

Route Category	Preferred or Alternate	Length (miles)
1	Preferred	43.6
1	Alternate	3.8
2B	Preferred	5.9
2B	Alternate	1.6
2C	Preferred	12.7
2C	Alternate	2.6
3	Preferred	0.9
3	Alternate	1.3
	Total	72.4

The proposed project includes nine (9) possible new crossings of MNDNR public waters (see Section 12. Water Resources). Crossings on public waters will require MNDNR Public Waters Work permits. Wetland and aquatic resource impacts above the Ordinary High-Water Level (OHWL), and on non-public waters, are subject to permitting requirements of the local zoning authority, Wetland Conservation Act (WCA), and the Clean Waters Act (CWA) Section 404 issued by the U.S. Army Corps of Engineers (USACE). Bridges or boardwalks, subject to state and local permitting requirements, may be planned for proposed trail segments and would be designed to minimize impacts to aquatic resources. Design of trail sections and water crossings would follow the recommendations from the "Trail Planning, Design, and Development Guidelines" manual (MNDNR, 2007). Proposed trails will be designed for a sustainable trail surface that avoids and minimizes erosion and sedimentation to aquatic resources. Each specific stream crossing will be designed by a professional engineer and will consider avoidance and minimization measures required in wetland and waterway permitting. Design would also consider fish passage per the designation of each water crossing.

- iv. If any critical facilities (i.e. facilities necessary for public health and safety, those storing hazardous materials, or those with housing occupants who may be insufficiently mobile) are proposed in floodplain areas and other areas identified as at risk for localized flooding, describe the risk potential considering changing precipitation and event intensity.

No critical facilities are proposed in floodplain areas or areas identified as at risk for localized flooding. New water crossings would be constructed to withstand seasonal flooding to the greatest extent possible.

- b. Discuss the project's compatibility with nearby land uses, zoning, and plans listed in Item 9a above, concentrating on implications for environmental effects.

Carlton County

The proposed project meets the goals and objectives of the Carlton County's Forest Management Plan and Community-Based Comprehensive Plan by expanding opportunities for trail-based recreation, while maintaining healthy aquatic ecosystems.

St. Louis County

The proposed project meets the goals and objectives of the St. Louis County Tourism and Recreation section of their Comprehensive Plan and further advances the purpose of the Plan as noted in section 10.a.ii to promote regional trail development and maintenance.

State Forest Classification and Road/Trail Designation

The Plan has evaluated forest classification to manage, limit, or close various areas to motor vehicle use to protect environmental features such as wetlands. The plan allows for some motorized use and coordination with state, county and private landowners may be required.

TATR is aware that MNDNR is undergoing State Forest Planning and understands that the outcome of these planning efforts may affect areas included in TATR's proposed trail system. All future trail projects will be coordinated with the MNDNR to ensure TATR's proposed trail system are in alignment with the results of the State Forest Planning.

Federal

Although the U.S. Forest Service plan does express concern about impacts from off-highway vehicles, the proposed project is compatible with the management plan as the type of project that is permissible to enhance the off-highway vehicle user experience. During reviews of other club-proposed trails on Federal land, the U.S. Forest Service has worked closely with the MNDNR, local government units (LGUs) and interest groups to evaluate site-specific locations of the trails and ensure the trails are compatible and interlink if possible. Objectives and guidance are laid forth for the control and limiting of noxious/invasive species, sustaining watershed health, and soil resources. Coordination with the Forest Service would occur to best ensure compatibility with these objectives.

- c. Identify measures incorporated into the proposed project to mitigate any potential incompatibility as discussed in Item 10b above and any risk potential.

Additional coordination with state, county, and private landowners for access permissions and/or easements will be necessary to allow legal ATV use on portions of the trail system.

Approximately 19.3 miles of new trail included in the EAW (7.8 preferred, 11.5 alternate) would be located on tax forfeit, state, MnDOT ROW, and private lands. The alignments on tax forfeit land would be developed to ensure compatibility for ATV use with county land use plans. The alignments on state lands would be developed to ensure compatibility for ATV use with the State Forest Classification & Road/Trail Designation Plan for MNDNR Forestry-Administered Lands. The alignments in MnDOT ROW will be permitted through a LUP. The proposer intends to utilize existing county, forest, and logging roads and existing managed trails to the greatest extent practicable, thus minimizing new trail construction.

Trail segments near the Canosia WMA and Hunter Walking Trails have potential for incompatibilities with allowable uses of these areas. These would be mitigated by installing \ gates or barricades to limit or restrict ATV access to incompatible sections.

11. Geology, soils and topography/land forms:

- a. Geology - Describe the geology underlying the project area and identify and map any susceptible geologic features such as sinkholes, shallow limestone formations, unconfined/shallow aquifers, or karst conditions. Discuss any limitations of these features for the project and any effects the project could have on these features. Identify any project designs or mitigation measures to address effects to geologic features.

The ecological setting of the project is the Northern Superior Uplands (NSU) and the Northern Minnesota Drift and Lake Plains (MDL) Ecological Classification System (ECS) Sections.

Underlying bedrock in the project area is Precambrian. Depth to bedrock ranges widely but is generally shallow in the NSU and deeper in the MDL. The MDL has complex surface geology, formed over many episodes of glaciation. It is characterized by deep [200-600ft (60-180m)] glacial deposits in outwash plains, lake plains, till plains, outwash channels, moraines, and drumlin fields. This area also is comprised of deep and large peatland complexes from Glacial Lake Upham. The NSU largely coincides with the extent of the Canadian Shield in Minnesota and is characterized by glacially scoured bedrock terrain with thin and discontinuous deposits of coarse loamy till and numerous lakes.

There are no identified susceptible geologic features such as limestone, karst, or unconfined/shallow aquifers in the review area. Otherwise, there are no anticipated limitations or effects the proposed project would have on geologic features.

The Wood Duck Trail South Route is a major concern for MN DNR where it crosses an active state metallic minerals lease. However, in this case the county is the surface administrator. It would be best to coordinate with the county directly to determine if they want to move forward with this trail designation. Discussions with the county should include a reminder that the trail sponsor/club should not use funding sources that would encumber the minerals, and they should be aware that if future development were to occur for mineral extraction, that the trail would need to be moved at the proposer's expense.

Other trail segments indicated as minor have metallic mineral potential under them, but for the most part the county administers the surface. The state likely owns the minerals (tax forfeit). We encourage communication with the county to advise them about the same funding restrictions for these parcels, but we would not object for the trail to be developed/improved on these parcels.

- b. Soils and topography - Describe the soils on the site, giving NRCS (SCS) classifications and descriptions, including limitations of soils. Describe topography, any special site conditions relating to erosion potential, soil stability or other soils limitations, such as steep slopes, highly permeable soils. Provide estimated volume and acreage of soil excavation and/or grading. Discuss impacts from project activities (distinguish between construction and operational activities) related to soils and topography. Identify measures during and after project construction to address soil limitations including stabilization, soil corrections or other measures. Erosion/sedimentation control related to stormwater runoff should be addressed in response to Item 12.b.ii.

The proposed project covers a wide area, with 100 mapped soil units including areas of open water and gravel pits. See Attachment C for a table that includes soil map units and their characteristics within the project area. Soils are discussed below in the context of K and T factors.

The K factor quantitatively represents the soil's susceptibility to erosion. The lower the K factor the less susceptible the soil is to erosion and more capable the soil is to water permeation. Figures 7A to 7I display the project area soil map units by erodibility, as defined by Soil Erodibility Factor (K factor).

The T factor is defined as the soil loss tolerance, or the maximum amount of erosion that can be maintained. T factors are integer values that range from 1 to 5, where 1 is the most susceptible to loss, and 5 is least susceptible to loss. Some trail segments are soils with T

factors of 4 and 5 (see Attachment C). These are least susceptible to adverse effects due to erosion, and likely correlate with other beneficial characteristics for a road or trail alignment (e.g., avoiding steep slopes and wet areas). Segments not currently open to ATV use in soils with lower T factors (more susceptible to erosion) may need improvements to prevent erosion and allow sustainable trail use. Precise volumes of excavation and grading would be determined through final design, which generally follows the MNDNR Natural Surface Guidelines for ATV Trails. In locations where steep slopes / drainages may be crossed, built structures such as bridge, boardwalks, and other such structures may be utilized. These structures are favored over culverts for open, flowing water. As a general rule, direct user contact with water is avoided during trail design, unless the water flow is transient, such as storm runoff, and minimal and trail use does not produce excessive sedimentation.

For proposed Route Category 1 segments, no change or potential impacts to soils and topography are anticipated. Route Category 2 (2B, 2C, and 2D) segments would need physical improvements to create a sustainable natural surface trail. Ground disturbance for improvements would consist of shallow excavation (approximately 12 inches in depth where needed to prepare subgrade) and shaping to prepare a sustainable natural trail surface. To minimize potential adverse impacts caused by erosion or soil instability, the proposed would coordinate with local, state, and federal agencies to monitor and maintain the trail following best practices outlined in the "Trail Planning, Design, and Development Guidelines" manual (MNDNR 2007).

New use on natural surface trails may compact soils, possibly resulting in increased runoff. According to the MNDNR Watershed Health Assessment Framework, the soil erosion potential is high for the majority of the three (3) major watersheds in which the project is located. Appropriate erosion and sediment control BMPs would be selected based on site conditions and maintained through each construction phase. The purpose of BMPs is to reduce the potential for sedimentation and runoff to surface water resources or migrating off site. Temporary BMPs would be inspected and maintained (per the NPDES Construction Stormwater Permit and SWPPP) until permanent vegetation is established. Permanent BMPs would be incorporated into trail design to minimize any erosion of the trail during ongoing use following guidance from the "Trail Planning, Design, and Development Guidelines" manual (MNDNR 2007). The trail design process would evaluate modifications based on appropriate slopes and drainage, propose installation of boardwalks or fill to correct areas with unsuitable soils, and avoid areas requiring extensive earthwork as is practicable.

Route Category 3 trail segments (new construction) would require ground disturbance for improvements. This could involve shallow excavation, backfill, and shaping/grading to prepare a sustainable natural trail surface. Perimeter erosion control would be installed where needed, particularly in sensitive areas, prior to construction. Erosion control measures are described in EAW Item 12.b.ii.

Construction of these routes would include slopes and surfaces designed to allow ATV use with minimal erosion, following the "Trail Planning, Design, and Development Guidelines" manual (MNDNR 2007). Stormwater control measures, including vegetative buffers and other BMPs, would be incorporated into the project design and development of ATV trails as described in EAW Item 12.b.ii.

After construction, an adaptive management plan would be implemented to address soil and topography stabilization, corrections, and erosion controls as needed. Post-construction conditions would be managed by trail clubs following conditions outlined in the SWPPP. Trail monitoring would follow the GIA program.

NOTE: For silica sand projects, the EAW must include a hydrogeologic investigation assessing the potential groundwater and surface water effects and geologic conditions that could create an increased risk of potentially significant effects on groundwater and surface water. Descriptions of water resources and potential effects from the project in EAW Item 12 must be consistent with the geology, soils and topography/land forms and potential effects described in EAW Item 11.

12. Water resources:

a. Describe surface water and groundwater features on or near the site in a.i. and a.ii. below.

- i. Surface water - lakes, streams, wetlands, intermittent channels, and county/judicial ditches. Include any special designations such as public waters, shoreland classification and floodway/floodplain, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include the presence of aquatic invasive species and the water quality impairments or special designations listed on the current MPCA 303d Impaired Waters List that are within 1 mile of the project. Include MNDNR Public Waters Inventory number(s), if any.

The proposed project is in a water resources rich area with many nearby rivers, streams, lakes, and wetlands. Wetlands are described in more detail in EAW Item 12.iv.a below.

The proposed project is in the St. Louis River (#3), the Cloquet River (#4), and the Lake Superior – South (#2) major watersheds. The majority of the project is in the St. Louis River and Cloquet River major watersheds.

The Canosia WMA is located within 1-mile of the proposed trail system. According to the MNDNR, this WMA is a diverse deciduous/coniferous forest and wetland/bog complex with many upland openings and waterfowl impoundments with wild rice. Forested areas are actively managed for wildlife, including deer, bear, small game, and forest upland birds. Three (3) water impoundments are managed for waterfowl.

No Waterfowl Management Areas, Wild and Scenic Rivers, or Designated Wildlife Lakes are in the vicinity of the proposed project.

There are 10 Aquatic Management Areas (AMAs) that are within 330 feet of the proposed trail system. AMAs provide angler and management access, protect critical shore land habitat and provide areas for education and research. Six (6) are within 330 feet of Category 1 routes and will not be impacted by the proposed project. Four (4) are located adjacent to Category 2 routes: Hellwig Creek AMA, Kehtel Creek AMA, Bear Trap Creek AMA, and St. Louis River II AM; the Category 2 routes in these locations have existing crossings of the AMAs. No additional bridge, boardwalk, culverts, etc. will be needed, therefore, no direct or indirect impacts to these AMAs will result from the proposed project.

Wild Rice Lakes identified by MNDNR Division of Fish & Wildlife that are within a 0.5-mile buffer (i.e., 0.25 miles on either side of centerline) of the proposed project area includes Martin (#20782), Twin (#21722), and Wild Rice (#19368) lakes. No Category 2 or 3 routes (i.e., requiring construction) are adjacent to Wild Rice lakes. No direct or indirect impacts to these waterbodies will result from the proposed project.

There are five (5) Lakes of Biological Significance within a 0.5-mile buffer (i.e., 0.25 miles on

either side of centerline) within the project area, four (4) are located in closest proximity to Category 1 routes, meaning there will not be any work completed along these routes; the routes are existing roads that are open to ATVs, and will be designated as part of the TATR system. Boulder Lake the nearest point of the lake to the system is approximately 1,920 feet; no impacts to Boulder Lake will result from the project.

Lakes of Biological Significance within 0.5-mile buffer of the Project

Lake of Biological Significance	Ranking	Route Category	Proximity to Trail System (feet)
Twin Lakes	Moderate	1	115
Boulder Lake	Outstanding	2C	1,920
Fish Lake Flowage	Outstanding	1	0 – Lavaque Road crosses Fish Lake Flowage
Whiteface Reservoir	Outstanding	1	150
Long Lake	Outstanding	1	45

There are six (6) lakes and one (1) stream [Bug Creek (#04010201-545)] on the MPCA's Wild Rice Inventory that are within a 0.5-mile buffer of the project area. Bug Creek is crossed by a Category 1 route in one (1) location; Fish Lake is crossed by a Category 1 route in one (1) location. No new crossings of any streams on this list are proposed. These waters have had documented evidence of wild rice growth. Inclusion on this list does not indicate current wild rice productions. No direct or indirect impacts to any of the designated wild rice waterbodies will result from the proposed project.

MPCA Wild Rice Lakes within 0.5-mile buffer of the Project

Lake of Biological Significance	Route Category	Proximity to Trail System (feet)
Twin Lakes	1	115
Schelins	1	367
Martin	1	240
Fish Lake Flowage	1	0 – Lavaque Road crosses Fish Lake Flowage
Whiteface Reservoir	1	150
Long Lake	1	45

Multiple MNDNR public waters, including designated trout streams, are within the project area. The proposed project includes 139 existing MNDNR public water crossings, which do not require improvements as part of the project (**Attachment D**). The proposed project includes 12 new water crossings of MNDNR public waters; the new crossings are situated on Category 2B, 2C, 2D, and 3 routes (see table below).

New Trail Crossing on Minnesota MNDNR Public Waters

Stream Name (Kittle Number)	MNDNR Shoreland Classification	Trout Stream ?	Proposed Trail Segment	Preferred?	Route Category	Coordinates	Figure Number
Beartrap Creek (S-002-016-001)	Tributary	Y	Saginaw Rd to Highway 8	Y	2C-2	46.87136757, -92.44791172	6E-1

Stream Name (Kittle Number)	MNDNR Shoreland Classification	Trout Stream ?	Proposed Trail Segment	Preferred?	Route Category	Coordinates	Figure Number
Dutch Slough (S-002-014-002)	Tributary	Y	Hwy 33 Connector	Y	3	46.81222603, -92.44988372	6G-23
Hellwig Creek (S-002-016-004)	Tributary	Y	Eastern Doghouse Connector	Y	3	47.02648666, -92.47139468	6G-10
Unnamed Stream (S-002-014-002-002)	Tributary	Y	Hwy 33 Connector	Y	3	46.82069971, -92.44983179	6G-23
Unnamed Stream (S-002-016-000.3)	Tributary	N	Brookston to Burnett	Y	2C-2	46.87461282, -92.54522801	6A-7
Unnamed Stream (S-002-016-001-002-001)	Tributary	Y	Saginaw Rd to Highway 8	Y	2C-2	46.88250974, -92.45038089	6E-1
Unnamed Stream (S-002-016-004-001)	Tributary	Y	Independence FR to Shipley Rd Cut Off	N	2B	46.99120314, -92.45022359	6H-2, 6H-3
Unnamed Stream (S-002-016-011-003)	Tributary	N	Radio Rd Loops East Connector	N	3	47.10072844, -92.21676341	6B-10
Unnamed Stream (S-002-016-011-003)	Tributary	N	Wood Duck Trail	Y	2C-2	47.07800416, -92.20771513	6B-11
Unnamed Stream (S-002-016-011-004)	Tributary	N	Wood Duck Trail - South Route	Y	2C-2	47.07996636, -92.18827921	6B-9
Unnamed Stream (S-002-016-011-003-002)	Tributary	N	West Twin Lake Alternative	N	3	47.09084931, -92.23457794	6B-8
Unnamed Stream (S-002-016-011-003-002)	Tributary	N	West Twin Lake Trail	N	3	47.09474252, -92.21828615	6B-8

The Saginaw Rd to Highway 8 trail includes one (1) new crossing of Beartrap Creek (S-002-016-001) and one (1) new crossing of Unnamed Stream (S-002-016-001-002-001). The existing railroad grade at these two (2) locations has eroded away and it is no longer usable by ATVs. The Brookston to Burnett, Independence FR to Shipley Rd Cut Off (alternate), Radio Rd Loops East Connector (alternate), Wood Duck Trail, Wood Duck Trail – South Route, West Twin Lake Alternative (alternate), and West Twin Lake Trail (alternate) each include one (1) new crossing of a MNDNR public water; there are no existing crossings at these locations.

The Hwy 33 Connector includes one (1) new crossing of Dutch Slough (S-002-014-002) and one (1) new crossing of Unnamed Stream (S-002-014-002-002). These crossings are located in the ROW of State Highway 33. MnDOT does not allow for ATV use on their road surface, therefore a new crossing would be needed at these locations. During early review coordination, it was requested that the trail segments that cross Dutch Slough (S-002-014-002) and Unnamed Stream (S-002-014-002-002) be removed from the EAW. TATR considered this request, however this Hwy 33 Connector is an important connection to TATR's existing Cloquet-Saginaw State Trail, and future Lumberjack to Brookston trail group. The removal of this trail segment would eliminate the opportunity to evaluate this trail connector for environmental impacts, therefore it was retained in the submittal of the EAW.

The Eastern Doghouse Connector includes one (1) new crossing of Hellwig Creek (S-002-016-004). This crossing is located in the ROW of State Highway 53. MnDOT does not allow for ATV use on their road surface, therefore a new crossing would be needed at this location. During early review coordination, it was requested that this trail segment that crosses Hellwig Creek (S-002-016-004) be removed from the EAW as additional road segments could circumvent this crossing location. TATR considered this request, however, currently ATVs are crossing Highway 53 at the intersection of Highway 53 and Harris Road. This is a well-used, unpermitted crossing. TATR does not anticipate that ATV users would cease using this crossing and believes that working through the LUP process with MnDOT will improve safety for ATV users and motorists at this location. The removal of this trail segment would eliminate the opportunity to permit this state highway crossing to meet safety standards.

If work is required below the OHWL, required BMPs would be established during permitting. These could include floating silt curtain, construction during no flows/low flows, or winter conditions, and, if required, incorporate coffer or check dams into the final plans. These BMPs would avoid or minimize Total Suspended Solids (TSS) from entering nearby water resources. A MNDNR document, *"Best Practices for Meeting MN MNDNR General Public Waters Work Permit GP 2004-0001"* provides substantial guidance to engineers for designing and implementing projects that affect public waters. MN Rule 6115.0230 (Bridges, culverts, intakes and outfalls) and 6115.0231 (Specific standards for bridges, culverts, intakes and outfalls), as well as Floodplain Rules, would apply to public water crossings. Other MN Rules may apply depending on activities, including but not limited to MR 6115.0190 to 6115.0192 and MR 6115.0200 to 6115.0202, for filling and excavation in public waters.

One (1) MPCA Exceptional Aquatic Life Use Water is within 1-mile of the proposed project: Humphrey Creek (S-002-016-011-007). The proposed project does not cross this water.

No MPCA Outstanding Resource Value Waters are within 1-mile of the proposed project.

There are 30 MPCA 303d Impaired Waters within 1-mile of the proposed project area.
Impaired waters and impairments are summarized below.

MPCA 303d Impaired Waters

Waterbody Name	AUID	Trail Group (Segment) Crossings	Impairment	TMDL	Proximity to Trail System
Beartrap Creek	04010202-521	Lumberjack Extension (Saginaw Rd to Highway 8)	fish bioassessments; benthic macroinvertebrates bioassessments	N/A	Crossed by trail
Cloquet River	04010202-501	Lumberjack Extension (Hwy 53 to Taft)	mercury in fish tissue and water column	N/A	Crossed by trail
Cloquet River	04010202-501	Road Route Connections (Burnett to Twig, CR 8 Road Route, Saginaw to Burnett Road)	mercury in fish tissue and water column	N/A	Crossed by trail
Cloquet River	04010202-502	Road Route Connections (Munger Shaw Road Route)	mercury in fish tissue	N/A	Crossed by trail
Cloquet River	04010202-504	Road Route Connections (Taft Rd)	mercury in fish tissue	N/A	Crossed by trail
East Savanna River	04010201-561	N/A	<i>E. coli</i>	N/A	Within 1-mile
Floodwood River	04010201-560	Floodwood Loop (Hwy 8 & CR 965 Road Route)	<i>E. coli</i> and mercury in water column	N/A	Crossed by trail
French River	04010102-698	N/A	turbidity	TMDL for turbidity approved 2019	Within 1-mile
Hay Creek	04010201-751	Road Route Connections (North Cloquet Rd Route)	<i>E. coli</i>	N/A	Crossed by trail
Hellwig Creek	04010202-672	Road Route Connections (Canyon Connector Road Route, Shipley Rd Road Route)	fish bioassessments; benthic macroinvertebrates bioassessments	N/A	Crossed by trail

Waterbody Name	AUID	Trail Group (Segment) Crossings	Impairment	TMDL	Proximity to Trail System
Kingsbury Creek	04010201-626	Road Route Connections (Stark Rd Route to Proctor)	Chloride; fish bioassessments; benthic macroinvertebrates bioassessments	TMDL for fish bioassessments and benthic macroinvertebrates bioassessments approved 2020.	Crossed by trail
Lester River	04010102-548, 549	Road Route Connections (Fredenburg to NSST Road Route)	Mercury in fish tissue, mercury in water column, turbidity	TMDL for mercury approved in 2014. TMDL for turbidity approved in 2020.	Crossed by trail
Pine River	04010201-543	Road Route Connections (Proctor to Lumberjack Road Route)	<i>E. coli</i>	TMDL for <i>E. coli</i> approved in 2018.	Crossed by trail
Sargent Creek	04010201-848	N/A	PFOS in fish tissue, <i>E. coli</i>	TMDL for <i>E. coli</i> approved in 2020.	Within 1-mile
St. Louis River	04010201-503	Road Route Connections (CR 862 to Heritage FR)	Mercury in fish tissue, mercury in water column	N/A	Crossed by trail
St. Louis River	04010201-504	N/A	Mercury in fish tissue	N/A	Within 1-mile
St. Louis River	04010201-505	N/A	Mercury in fish tissue	N/A	Within 1-mile
St. Louis River	04010201-506	Road Route Connections (Brookston to Culver Road)	Mercury in fish tissue	N/A	Crossed by trail
St. Louis River	04010201-507	N/A	Mercury in fish tissue	N/A	Within 1-mile
St. Louis River	04010201-508	Floodwood Loop (Hwy 8 & CR 965 Road Route)	Mercury in fish tissue, total suspended solids	N/A	Crossed by trail
St. Louis River	04010201-511	N/A	Mercury in fish tissue, mercury in water column	N/A	Within 1-mile
St. Louis River	04010201-515	Road Route Connections (Proctor to Scanlon)	Mercury in fish tissue, mercury in water column, PCBs in fish tissue	N/A	Crossed by trail
St. Louis River	04010201-516	N/A	Mercury in fish tissue, PCBs in fish tissue	N/A	Within 1-mile

Waterbody Name	AUID	Trail Group (Segment) Crossings	Impairment	TMDL	Proximity to Trail System
St. Louis River	04010201-517	N/A	Mercury in fish tissue, mercury in water column	N/A	Within 1-mile
St. Louis River	04010201-524	N/A	Mercury in fish tissue, PCBs in fish tissue	N/A	Within 1-mile
Stewart Creek	04010201-884	N/A	<i>E. coli</i>	TMDL for <i>E. coli</i> approved in 2020.	Within 1-mile
Unnamed Creek (Rocky Run Creek)	04010201-625	Road Route Connections (Proctor to Lumberjack Road Route)	<i>E. coli</i>	TMDL for <i>E. coli</i> approved in 2018.	Crossed by trail
Whiteface River	04010201-528	Road Route Connections (Cotton to Bug Creek FMR)	Mercury in fish tissue	TMDL for mercury in fish tissue approved in 2007.	Crossed by trail
Whiteface River	04010201-B01	Road Route Connections (Camp 26 to Hwy 53)	Mercury in fish tissue	TMDL for mercury in fish tissue approved in 2007.	Crossed by trail
Whiteface River	04010201-B63	Road Route Connections (Cotton to Bug Creek FMR)	Mercury in fish tissue	TMDL for mercury in fish tissue approved in 2007.	Crossed by trail
Boulder Lake	69-0373-00	N/A	Mercury in fish tissue	TMDL for mercury in fish tissue approved in 2008.	Within 1-mile
Caribou Lake	69-0489-00	N/A	Mercury in fish tissue	TMDL for mercury in fish tissue approved in 2010.	Within 1-mile
Dinham Lake	69-0544-00	N/A	Mercury in fish tissue, nutrients	TMDL for mercury in fish tissue approved in 2013. TMDL for mercury in fish tissue approved in 2018.	Within 1-mile
Fisk Lake Flowage (East Bay)	69-0491-02	N/A	Mercury in fish tissue, PFOS in fish tissue	TMDL for PFOS in fish tissue approved in 2008.	Within 1-mile
Fish Lake Flowage (Main Bay)	69-0491-01	N/A	Mercury in fish tissue	TMDL for mercury in fish tissue approved in 2008.	Within 1-mile
Grand Lake	69-0511-00	N/A	Mercury in fish tissue	N/A	Within 1-mile
Half Moon Lake	69-0657-00	N/A	Mercury in fish tissue	TMDL for mercury in fish tissue approved in 2014.	Within 1-mile

Waterbody Name	AUID	Trail Group (Segment) Crossings	Impairment	TMDL	Proximity to Trail System
Island Lake Reservoir (West Basin)	69-0372-01	N/A	Mercury in fish tissue	N/A	Within 1-mile
Long Lake	69-0495-00	N/A	Mercury in fish tissue, nutrients	N/A	Within 1-mile
Lower Comstock Lake	69-0490-00	N/A	Mercury in fish tissue	TMDL for mercury in fish tissue approved in 2007.	Within 1-mile
Pike Lake	69-0490-00	N/A	Mercury in fish tissue	TMDL for mercury in fish tissue approved in 2007.	Within 1-mile
Upper Comstock Lake	69-0412-01	N/A	Mercury in fish tissue	N/A	Within 1-mile
Whiteface Reservoir	69-0375-00	N/A	Mercury in fish tissue	N/A	Within 1-mile
Wild Rice Lake	69-0371-00	N/A	Mercury in fish tissue, PFOS in fish tissue	TMDL for PFOS in fish tissue approved in 2007.	Within 1-mile
Wolf Lake	69-0143-00	N/A	Mercury in fish tissue	N/A	Within 1-mile

Construction BMPs required for work adjacent to Impaired Waters would be identified during permitting and design. These would vary depending on site specific conditions. These could include construction during no flows/low flows or winter conditions and, if required, incorporation of coffer or check dams into the final plans. These BMPs would avoid or minimize TSS from entering the nearby water resources. The proposers would work with the MPCA to ensure construction and ongoing use of the trails are in accordance with TMDLs.

- ii. Groundwater – aquifers, springs, seeps. Include: 1) depth to groundwater; 2) if project is within a MDH wellhead protection area; 3) identification of any onsite and/or nearby wells, including unique numbers and well logs if available. If there are no wells known on site or nearby, explain the methodology used to determine this.

The project covers a broad geographic area with variable topography so the depth to groundwater varies across the review area. Five (5) wellhead protection areas (WPA) intersect the proposed trail segments:

1. Floodwood (ID# 75901)
2. Esko Public Schools, ISD #99 (ID# 29101)
3. RAM Mutual Insurance Company (ID# 29102)
4. Cloquet South (ID# 66601)
5. Cloquet North (ID# 66701)

Three (3) of the WPAs are intersected by Route Category 1 trails, meaning no work will be done on the trail alignments, therefore no impacts to the WPAs will result from the project. The Esko Public Schools and RAM Mutual Insurance Company WPAs intersect the Proctor to Scanlon trail. This trail will be improved as a result of Carlton County's reconstruction of Highway 61. Trail improvements will implement construction BMPs to

avoid impacts to groundwater; no impacts to these WPAs are anticipated to result from the project.

The MDH County Well Index identifies six (6) wells within a 40-foot buffer of the entire project route. Trail improvements are limited to the 26-foot-wide area centered on the centerline of the trail; no impacts to these wells are anticipated to result from the project.

b. Describe effects from project activities on water resources and measures to minimize or mitigate the effects in Item b.i. through Item b.iv. below.

i. Wastewater - For each of the following, describe the sources, quantities and composition of all sanitary, municipal/domestic and industrial wastewater produced or treated at the site.

- 1) If the wastewater discharge is to a publicly owned treatment facility, identify any pretreatment measures and the ability of the facility to handle the added water and waste loadings, including any effects on, or required expansion of, municipal wastewater infrastructure.

No sanitary, municipal/domestic, or industrial wastewater would be produced or treated by the project.

- 2) If the wastewater discharge is to a subsurface sewage treatment systems (SSTS), describe the system used, the design flow, and suitability of site conditions for such a system. If septic systems are part of the project, describe the availability of septage disposal options within the region to handle the ongoing amounts generated as a result of the project. Consider the effects of current Minnesota climate trends and anticipated changes in rainfall frequency, intensity and amount with this discussion.

Not applicable.

- 3) If the wastewater discharge is to surface water, identify the wastewater treatment methods and identify discharge points and proposed effluent limitations to mitigate impacts. Discuss any effects to surface or groundwater from wastewater discharges, taking into consideration how current Minnesota climate trends and anticipated climate change in the general location of the project may influence the effects.

Not applicable.

ii. Stormwater - Describe changes in surface hydrology resulting from change of land cover. Describe the routes and receiving water bodies for runoff from the project site (major downstream water bodies as well as the immediate receiving waters). Discuss environmental effects from stormwater discharges on receiving waters post construction including how the project will affect runoff volume, discharge rate and change in pollutants. Consider the effects of current Minnesota climate trends and anticipated changes in rainfall frequency, intensity and amount with this discussion. For projects requiring NPDES/SDS Construction Stormwater permit coverage, state the total number of acres that will be disturbed by the project and describe the stormwater pollution prevention plan (SWPPP), including specific best management practices to address soil erosion and sedimentation during and after project construction. Discuss permanent stormwater management plans, including methods of achieving volume reduction to restore or maintain the natural hydrology of the site using green infrastructure practices or other stormwater management

practices. Identify any receiving waters that have construction-related water impairments or are classified as special as defined in the Construction Stormwater permit. Describe additional requirements for special and/or impaired waters.

The landscape surrounding the proposed project is largely natural, undeveloped, forested lands. Undisturbed vegetation naturally slows stormwater runoff and promotes infiltration where soils are suitable.

The use of existing, allowed routes for seasonal ATV use (Category 1), has minor potential to result in increased sediment mobilization and erosion of natural surface trails if incorporating these routes increases rider numbers. Monitoring and maintenance of natural surface trails would be necessary to prevent erosion and sedimentation that could contribute to adverse effects on stormwater (e.g., TSS). The trail clubs would work with local, state, and federal agencies to minimize potential adverse impacts caused by erosion of soil instability by the monitoring and maintenance of the trail and by using BMPs as described in the MNDNR's 2007 *"Trail Planning, Design and Development Guidelines"* manual. Category 1 trail segments would not have construction-related changes to water quality of stormwater. Roads are typically designed with an elevated centerline and continuous fall towards the road shoulder in order to drain stormwater from the roadbed to vegetated roadside ditches.

Improvements of existing routes and new construction (Categories 2 and 3) may cause erosion and sedimentation to downstream waterways. Improvements and new trail construction would include fill, culverts, bridges, or boardwalks. Design would be based on discrete site conditions (e.g., elevations, drainage, flow paths, soils, etc.). The design of all wetland and waterway crossings would follow avoidance and minimization requirements for permitting. A Stormwater Pollution and Prevention Plan (SWPPP) would be developed for trail segments proposed for improvements and new construction. The SWPPP would specify temporary erosion and sediment control BMPs. Redundant temporary and permanent erosion control BMPs may also be requirements of any necessary Public Water Work permits. BMPs may also be specified by local planning and zoning permits, WCA permits, or CWA Section 404 permits. BMPs utilized during construction may include (but are not limited to) the following: erosion control blankets on steep slopes, biorolls / filter logs, rock construction entrances, and seeding. The proposer would consult with permitting agencies responsible for the authorization of the project and follow permit conditions.

- iii. Water appropriation - Describe if the project proposes to appropriate surface or groundwater (including dewatering). Describe the source, quantity, duration, use and purpose of the water use and if a MNDNR water appropriation permit is required. Describe any well abandonment. If connecting to an existing municipal water supply, identify the wells to be used as a water source and any effects on, or required expansion of, municipal water infrastructure. Discuss environmental effects from water appropriation, including an assessment of the water resources available for appropriation. Discuss how the proposed water use is resilient in the event of changes in total precipitation, large precipitation events, drought, increased temperatures, variable surface water flows and elevations, and longer growing seasons. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation. Describe contingency plans should the appropriation volume increase beyond infrastructure capacity or water supply for the project diminish in quantity or quality, such as reuse of water, connections with another water source, or emergency connections.

The project proposes no water appropriations nor well abandonment. No dewatering is

currently anticipated. If temporary construction dewatering is needed, a MNDNR Water Appropriation Permit may be required, which would be the responsibility of the contractor.

iv. Surface Waters

- a) Wetlands - Describe any anticipated physical effects or alterations to wetland features such as draining, filling, permanent inundation, dredging and vegetative removal. Discuss direct and indirect environmental effects from physical modification of wetlands, including the anticipated effects that any proposed wetland alterations may have to the host watershed, taking into consideration how current Minnesota climate trends and anticipated climate change in the general location of the project may influence the effects. Identify measures to avoid (e.g., available alternatives that were considered), minimize, or mitigate environmental effects to wetlands. Discuss whether any required compensatory wetland mitigation for unavoidable wetland impacts will occur in the same minor or major watershed and identify those probable locations.

Field delineations for three (3) trail segments were completed in October 2024: Lumberjack to Highway 2, Saginaw to Highway 8, and Radio Road Trail. Wetland delineation reports will be submitted to the WCA LGU and the USACE for review of boundary and type determinations. All trail segments will be field delineated prior to trail design, permitting, and construction. For context of wetland resources in the overall project area, Figures 6a through 6i show approximate wetland locations as mapped by the USFWS National Wetlands Inventory (NWI).

The table below summarizes the estimated impacts to wetlands in the project area. Estimated impacts are preliminary and were prepared based on a maximum impact width through the NWI-mapped wetland areas. The estimated impacts are intended to represent the maximum amount of expected impact, since the project would avoid and minimize wetland impacts to the greatest extent practicable.

Potential Wetland Impacts

Wetland Type, Circular 39, HGM	Acres of Wetland in Study Area	Acres in Build Area – Potential Impact Areas
Type 1 – Lotic, Mineral Flat	1.8	1.0
Type 2 – Lotic, Mineral Flat, Slope	8.2	3.9
Type 3 – Depression, Lotic, Mineral Flat, Slope	6.3	3.6
Type 4 – Depression	0.2	0.2
Type 5 – Depression	0.6	0.3
Type 6 – Depression, Lentic, Lotic, Mineral Flat, Slope	35.4	17.5
Type 7 – Depression, Lotic, Mineral Flat, Slope	23.8	14.0
Type 8 – Peatland	13.6	6.5

Direct wetlands impacts would result from excavation and fill needed for trail improvements to construct safe and sustainable trails for use by ATVs. For example, the placement of fill in low elevation locations to prevent erosion and sedimentation into adjacent waterways, the installation of culverts to allow for surficial connectivity between wetlands on either side of the proposed trail alignment, the installation of footings to support boardwalks, etc. The exact

locations and amounts of wetland impact will be identified during the design phase. Wetland hydrology between wetlands crossed by trails would be maintained by culverts as appropriate. The definition of an indirect impact in Minnesota Rule 8420.0111, Subp. 34. is "an impact that results from an activity that occurs outside of the wetland boundary." No indirect wetland impacts are anticipated to result.

Route Category 1 trails would not have impact on surrounding wetland resources. Existing trails that may need improvement (Route Category 2B and 2C) and new trail segments (Route Category 3) would have the potential to cause erosion and downstream sedimentation during construction activities. Erosion and sedimentation would be managed as described in EAW Item 12.b.2 above.

Wetland disturbance would be minimized by crossing wetlands with boardwalks where practicable and using the narrowest trail footprint that would accommodate all allowed vehicles on each segment (i.e., 20 to 26 feet for segments shared with snowmobiles snowmobile grooming equipment and 12 to 14 feet for ATV only segments). Potential wetland impacts due to improvements on existing trails and new trail construction are summarized below. These are conservatively estimated from an intersection of the estimated wetlands from the NWI and the widest possible build footprint using fill (26 feet).

Both the WCA and the CWA require that impacts to aquatic resources be avoided and minimized; project alternatives are needed to demonstrate that the impacts have been avoided and minimized to the greatest extent practicable. Wetland replacement/mitigation is the last option when avoidance/minimization is not feasible. Project design would minimize wetland impacts where practicable by proposing a narrower trail footprint or a boardwalk crossing. Alternative routes are also considered for avoidance and minimization of wetland impacts. Minimization measures would be identified and refined during the design phase. Applications for WCA and CWA permits would describe sequencing of project alternatives, minimization, and, if necessary, wetland replacement/mitigation in detail.

Trail design would minimize adverse effects to the host watershed by using culverts as applicable to maintain hydrologic connections. Like the prevention of adverse effects due to stormwater discussed in EAW Item 12.b.iii above, climate trends predict an increase in the frequency of large storm events, making effective stormwater management critical for reducing impacts to the host watershed.

No impacts are proposed to public waters wetlands. Non-public waters wetlands may be subject to permit requirements of the WCA authority – typically St. Louis County, Carlton County, MNDNR, MnDOT, or a municipality, depending on the land owner or administrator in the impact area.

Water related permits applicable to the project include the WCA Wetland Replacement Plan, CWA Section 404 permit issued by the USACE, the NPDES permit issued by the MPCA, and the CWA Section 401 Water Quality Certification issued by the MPCA.

Wetland mitigation plans are developed during the preparation of a permit application for wetland impacts. Impacts are based on a site-specific design, which has not been developed at this stage of the project. Wetland impacts results from a design will be calculated using the approved wetland boundaries and type and the

footprint of the design. The impacts resulting from a proposed design are minimized to the greatest extent by siting the trails in upland as much as possible. Alternatives analysis is a statutory requirement of WCA decision and must be included in permit applications. If wetland impacts cannot be avoided, mitigation is the final step, where wetland credits are purchased from an established wetland bank.

Wetland mitigation requirements would be established during permitting. Mitigation would generally be achieved by the purchase of wetland credits from an established wetland bank. Selection of a mitigation bank would follow siting criteria in MN Rule 8420.0522 Supb. 7, with replacement within watershed as priority if credits are available in the same watershed as the impact. The compensatory mitigation ratio would be negotiated with the approving agency based on the type of impact. For wetland loss, the minimum would be a 1:1 mitigation/replacement ratio; for example, one-acre of wetland loss would be replaced by a minimum of one acres of wetland credit. Depending on the proposed wetland impacts, the mitigation ratio may increase.

Temporary impacts to wetlands would be restored to pre-construction conditions as dictated by permit conditions. This would likely include restoring natural/pre-construction contours, reseeding with recommended native vegetation, and other measures specific to the type of temporary impact.

- b) Other surface waters- Describe any anticipated physical effects or alterations to surface water features (lakes, streams, ponds, intermittent channels, county/judicial ditches) such as draining, filling, permanent inundation, dredging, diking, stream diversion, impoundment, aquatic plant removal and riparian alteration. Discuss direct and indirect environmental effects from physical modification of water features, taking into consideration how current Minnesota climate trends and anticipated climate change in the general location of the project may influence the effects. Identify measures to avoid, minimize, or mitigate environmental effects to surface water features, including in-water Best Management Practices that are proposed to avoid or minimize turbidity/sedimentation while physically altering the water features. Discuss how the project will change the number or type of watercraft on any water body, including current and projected watercraft usage.

No direct changes to any surface water features (lakes, streams, ponds, intermittent channels, county/judicial ditches, etc.) are proposed as part of this project. Construction and improvements of trails, construction of water body crossings, and ongoing use of the trails could result in adverse effects to surface water features. These are described in further detail below.

No changes in water quality, impairments, or fish and wildlife values of nearby waters are anticipated on Route Category 1 trails. Monitoring and maintenance of natural surface trails would be necessary to prevent erosion which could contribute to TSS impairments. Air emissions from trail use may include mercury, like any combustion of fossil fuels; however, these emissions would be negligible compared to other sources such as highway vehicle traffic, power plant, or other global industrial sources of air emissions. Therefore, ATV use would not be expected to contribute to mercury impairments because of their negligible contribution to the overall deposition of mercury to these watersheds. TATR would work with local, state, and federal agencies to minimize potential adverse effects caused by erosion or soil instability by monitoring and maintaining trails and using BMPs as described

in the *“Trail Planning, Design, and Development Guidelines”* manual (MNDNR 2007). In general, climate change projections for Minnesota predict a warmer and wetter climate with more frequent extreme precipitation events. These precipitation events could result in increased erosion of the trail and sedimentation into nearby water features and therefore would require increased trail monitoring and maintenance.

Improvements to Route Category 2B, 2C, and 2D and construction of Route Category 3 segments could cause erosion and sedimentation to downstream water resources. To minimize potential construction effects that could contribute to increased TSS, the project would require erosion and sediment control measures such as erosion control blanket on steep slopes, silt fencing, etc. To minimize potential TSS from ongoing use, trail design would follow the *“Trail Planning, Design, and Development Guidelines”* manual (MNDNR 2007), and continued trail monitoring and maintenance would be conducted to mitigate rutting, trail erosion, and other issues.

Individual wetland and waterbody crossings will be designed based on the site-specific characteristics of the aquatic resource, including channel width, flow regime, hydrology, and soil conditions. Potential improvements to support a sustainable trail surface may include placement of fill or surface hardening, as well as installation of culverts, temporary bridges, permanent bridges, and/or boardwalk structures.

Consistent with the design approach described for Category 2B and Category 2D Routes, the following general criteria will be applied:

- For relatively small crossings (generally less than 10 feet in width), a culvert with fill may be used where a defined channel is present, and where installation can maintain existing hydrology and minimize impacts.
- For water crossings greater than approximately 10 feet in width, a temporary bridge will typically be utilized to avoid in-channel disturbance and eliminate the need for permanent foundations.
- For larger water crossings (generally greater than 60 feet in width), a permanent bridge will be required to provide a stable, long-term structure appropriate to the span and hydraulic conditions.
- For wetland crossings, either culvert with fill or boardwalk structures will be used, depending on wetland characteristics. Boardwalks are generally preferred in areas where minimizing disturbance to wetland hydrology, soils, and vegetation is critical, particularly for longer crossings (typically greater than 60 feet).

The selection of crossing type will be based on site-specific engineering evaluation and will be finalized during the design and permitting phase in coordination with applicable regulatory agencies. As described for Category 2B and 2D Routes, all crossing designs will prioritize avoidance and minimization of impacts to wetlands and aquatic resources, and will comply with applicable local, state, and federal permitting requirements.

Potential direct effects of improvements are modified/improved crossings of streams to provide safe fish passage. New or improved stream crossings would be designed to meet MNDNR requirements for maintaining flood flow, fish passage,

and navigability (if applicable). Small stream crossings are anticipated to be temporary bridges or low-ford water crossings (for non-designated trout streams) without permanent alterations to the bed, bank, or cross section of the stream. Temporary bridge and low-ford water crossing design would meet MNDNR's "no permit needed" criteria as described in the MNDNR's brochure for temporary bridge crossings available on the MNDNR Water Permits webpage¹³. Stream crossings within the designated FEMA floodplain will require a floodplain permit from the local zoning authority. Possible impacts of water body crossings include sedimentation and runoff during construction and effects on water flow. Sedimentation would be reduced using redundant erosion and sedimentation controls during construction, the proper placement of and sizing for water crossings, and the proper integration of the crossing with the trail. Adverse effects on water flow would be avoided by proper sizing of water crossings to accommodate expected flood waters, taking into consideration the expected increase in precipitation intensity from climate change impacts.

13. Contamination/Hazardous Materials/Wastes:

- a. Pre-project site conditions - Describe existing contamination or potential environmental hazards on or in close proximity to the project site such as soil or ground water contamination, abandoned dumps, closed landfills, existing or abandoned storage tanks, and hazardous liquid or gas pipelines. Discuss any potential environmental effects from pre-project site conditions that would be caused or exacerbated by project construction and operation. Identify measures to avoid, minimize or mitigate adverse effects from existing contamination or potential environmental hazards. Include development of a Contingency Plan or Response Action Plan.

Route Category 1 trails would not have the potential for additional contamination, waste, or hazardous materials, as there are no improvements or construction proposed in these trail segments.

A query of the MPCA's "What's in My Neighborhood" online database (accessed February 2025) seven (7) active sites within the 40-foot review corridor for Route Category 2 segments. These are summarized in the table below. No effects on these sites will result from the proposed project.

MPCA What's in My Neighborhood Active Sites Within The 40-Foot Review Corridor of Route Category 2 Segments

Site ID	Address	Activity	MPCA IDs
29928	4 W Highway 61, Esko	Hazardous Waste	MNS000208785
16595	101 Highway 61, Esko	Hazardous Waste, Minimal Quantity Generator; RCTA Remediation; Wastewater	MND985753680
193093	7283 Highway 53, Canyon	Petroleum Remediation, Leak Site	LS0007224
195232	202 S Boundary Ave, Proctor	Petroleum Remediation, Leak Site	LS0006710
188512	5450 Old Highway 61 W, Duluth	Petroleum Remediation, Leak Site	LS0012034
25246	5821 Old Highway 61, Proctor	Hazardous Waste, Minimal Quantity Generator	MNS000216721

A query of the MPCA's "What's in My Neighborhood" online database (accessed February 2026) did not identify any active sites within the 40-foot review corridor for Route Category 3

¹³ [Temporary Bridges and Low-Water Ford Crossings](#)

segments.

The proposed project does not anticipate encountering contaminants during construction. Excavation would be limited to approximately 12 inches in depth for subgrade preparation, where necessary. If contaminated soil is encountered, the state duty office would be contacted immediately.

- b. Project related generation/storage of solid wastes - Describe solid wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from solid waste handling, storage and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of solid waste including source reduction and recycling.

The proposed project will not generate significant amounts of solid waste during construction. Solid waste generated during construction will consist primarily of standard trail construction materials. The construction contractor would be responsible for removing and construction generated waste to the appropriate off-site facilities for disposal.

During use of the trail, solid waste (e.g., trash) may be discarded along the project route by trail users. The trail clubs promote trail stewardship and maintenance, which includes discouraging littering. Following the completion of the proposed project, the trail would be operated, maintained, and managed through the Minnesota Trail Assistance program (Grant-in-Aid program) which allows the use of trail ambassadors to help monitor trail etiquette. The goal of trail ambassadors is to help monitor and maintain trails and manage trash. Signage placed along the trails would encourage trail riders to stay on mapped and signed trails and dispose of waste in proper receptacles.

- c. Project related use/storage of hazardous materials - Describe chemicals/hazardous materials used/stored during construction and/or operation of the project including method of storage. Indicate the number, location and size of any new above or below ground tanks to store petroleum or other materials. Indicate the number, location, size and age of existing tanks on the property that the project will use. Discuss potential environmental effects from accidental spill or release of hazardous materials. Identify measures to avoid, minimize or mitigate adverse effects from the use/storage of chemicals/hazardous materials including source reduction and recycling. Include development of a spill prevention plan.

ATV trail use may introduce small quantities of fuel and other materials such as hydraulic oils into the environment. The release of other materials is anticipated to be negligible in quantity. To minimize fuel leaks, TATR encourages trail stewardship which includes maintaining vehicles to avoid leaks.

For trail segments that would require improvements/construction, some hazardous materials (such as fuel and lubricants for machinery) would be used. These materials would be used during active construction only, and the construction contractor would be required to follow Pollution Prevention Management Measures (Part IV.F.2) of the NPDES Construction Stormwater Permit. Refueling spills and equipment breakdowns, such as a broken hydraulic line, could introduce contaminants into the soil during construction. Equipment operators would be instructed to take precautions when refueling equipment and on what to do in the event of an equipment breakdown. Refueling would be conducted away from surface waters and equipment would be regularly inspected by the contractor with appropriate oversight from the lead engineer and repaired to prevent inadvertent loss of fuels, oils, or other hazardous fluids. Any spills would be reported to the MPCA by the construction contractor or the lead

engineer. All hazardous materials would be removed from the project site on completion of construction.

- d. Project related generation/storage of hazardous wastes - Describe hazardous wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from hazardous waste handling, storage, and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of hazardous waste including source reduction and recycling

No hazardous waste is expected to be generated/stored during construction or ongoing trail operation.

14. Fish, wildlife, plant communities, and sensitive ecological resources (rare features):

- a. Describe fish and wildlife resources as well as habitats and vegetation on or in near the site.

The proposed project has connections over a broad geographic area (see EAW Item 6.c). As classified by the Ecological Classification System (ECS), it is located within the Laurentian Mixed Forest (LMF) ecological province, with conifer forest, mixed conifer-hardwood forest, and conifer-dominated wetlands. The routes are in the Northern Superior Uplands and the Northern Minnesota and Ontario Peatlands ecological sections. The Northern Superior Uplands are characterized by shallow bedrock of the Canadian Shield, with high topographic relief. Typical native vegetation is fire-dependent and mesic hardwood forests and woodlands with inclusions of peatlands and wet forests. The Northern Minnesota and Ontario Peatlands section, in contrast, is generally flat and poorly drained. Mesic and wet forests and large peatlands are common in this section.

Native Plant Communities

The MNDNR Native Plant Community (NPC) feature layer identifies MNDNR-mapped NPCs within and adjacent to the project area. The MNDNR-mapped NPCs are shown in relation to the project segments on Figures 9a through 9i. The NPCs are assigned conservation status ranks (S-ranks) that reflect the risk of elimination of the community from Minnesota. The ranks include:

- S1 – Critically Imperiled
- S2 – Imperiled
- S3 – Vulnerable to Extirpation
- S4 – Apparently Secure; Uncommon but Not Rare
- S5 – Secure, Common, Widespread, and Abundant

NPCs exist beyond what has been classified and mapped. There may be NPCs adjacent to and intersected by many of the routes. This section evaluated NPCs using the best available data to evaluate and estimate potential impacts.

MNDNR-Mapped Native Plant Communities within 330 feet of Category 2 Routes

MBS Site Name	NPC Code	Native Plant Community Classification	Conservation Status Rank	Number of Communities
Chicken-Hellwig Headwaters	APn81	Northern Poor Conifer Swamp	S4, S5	2
Chicken-Hellwig Headwaters	APn90	Northern Open Bog	S2, S4, S4S5	1
Chicken-Hellwig Headwaters	FPn73	Northern Rich Alder Swamp	S5	1
Chicken-Hellwig Headwaters	MHn44	Northern Wet-Mesic Boreal Hardwood-Conifer Forest	S2, S3, S3S4, S4	2

MBS Site Name	NPC Code	Native Plant Community Classification	Conservation Status Rank	Number of Communities
Chicken Creek Hardwoods	AFP_CX	Alder Swamp / Forested Peatland Complex	S3, S4, S5	2
Chicken Creek Hardwoods	APn80a	Black Spruce Bog	S4	1
Chicken Creek Hardwoods	APn81a	Poor Black Spruce Swamp	S5	1
Chicken Creek Hardwoods	APn81b	Poor Tamarack - Black Spruce Swamp	S4	1
Chicken Creek Hardwoods	BW_CX	Beaver Wetland Complex	S2, S3, S4, S5	1
Chicken Creek Hardwoods	FDn43b1	Aspen - Birch Forest, Balsam Fir Subtype	S5	3
Chicken Creek Hardwoods	FDn43c	Upland White Cedar Forest	S3	1
Chicken Creek Hardwoods	FPn62a	Rich Black Spruce Swamp (Basin)	S3	1
Chicken Creek Hardwoods	MHn44	Northern Wet-Mesic Boreal Hardwood-Conifer Forest	S2, S3, S3S4, S4	2
Chicken Creek Hardwoods	MHn44c	Aspen - Fir Forest	S3S4	1
Chicken Creek Hardwoods	MHn45	Northern Mesic Hardwood (Cedar) Forest	S2, S3, S4	4
Chicken Creek Hardwoods	MHn45a	Paper Birch - Sugar Maple Forest (North Shore)	S4	2
Chicken Creek Hardwoods	MHn45b	White Cedar - Yellow Birch Forest	S2	2
Chicken Creek Hardwoods	MHn46	Northern Wet-Mesic Hardwood Forest	S4	2
Chicken Creek Hardwoods	WFn53	Northern Wet Cedar Forest	S3, S4	2
Chicken Creek Hardwoods	WFn55	Northern Wet Ash Swamp	S3, S4	4
Chicken Creek Hardwoods	WFn55c	Black Ash - Mountain Maple Swamp (North)	S3	1
Chicken Creek Hardwoods	WFn64	Northern Very Wet Ash Swamp	S4	3
Lost Lake Hardwoods	AFP_CX	Alder Swamp / Forested Peatland Complex	S3, S4, S5	1
Lost Lake Hardwoods	APn81	Northern Poor Conifer Swamp	S4, S5	1
Lost Lake Hardwoods	APn81a	Poor Black Spruce Swamp	S5	1
Lost Lake Hardwoods	APn81b	Poor Tamarack - Black Spruce Swamp	S4	3
Lost Lake Hardwoods	APn91	Northern Poor Fen	S3, S4, S5	1
Lost Lake Hardwoods	APn91a	Low Shrub Poor Fen	S5	1
Lost Lake Hardwoods	BW_CX	Beaver Wetland Complex	S2, S3, S4, S5	1

MBS Site Name	NPC Code	Native Plant Community Classification	Conservation Status Rank	Number of Communities
Lost Lake Hardwoods	FDn43b1	Aspen - Birch Forest, Balsam Fir Subtype	S5	8
Lost Lake Hardwoods	FPn73a	Alder - (Maple - Loosetrife) Swamp	S5	2
Lost Lake Hardwoods	FPn82a	Rich Tamarack - (Alder) Swamp	S5	2
Lost Lake Hardwoods	MHn44	Northern Wet-Mesic Boreal Hardwood-Conifer Forest	S2, S3, S3S4, S4	2
Lost Lake Hardwoods	MHn45a	Paper Birch - Sugar Maple Forest (North Shore)	S4	2
Lost Lake Hardwoods	MHn47a	Sugar Maple - Basswood - (Bluebead Lily) Forest	S3	6
Lost Lake Hardwoods	WMn82b	Sedge Meadow	S4 or S5	1
Stroud Lake	AFP_CX	Alder Swamp / Forested Peatland Complex	S3, S4, S5	2
Stroud Lake	APn80a	Black Spruce Bog	S4	5
Stroud Lake	APn81a	Poor Black Spruce Swamp	S5	3
Stroud Lake	APn81b	Poor Tamarack - Black Spruce Swamp	S4	2
Stroud Lake	BW_CX	Beaver Wetland Complex	S2, S3, S4, S5	2
Stroud Lake	FDn43b1	Aspen - Birch Forest, Balsam Fir Subtype	S5	1
Stroud Lake	FPn62a	Rich Black Spruce Swamp (Basin)	S3	1
Stroud Lake	FPn63a	White Cedar Swamp (Northeastern)	S4	1
Stroud Lake	MHn44	Northern Wet-Mesic Boreal Hardwood-Conifer Forest	S2, S3, S3S4, S4	1
Stroud Lake	MHn44a	Aspen - Birch - Red Maple Forest	S4	1
Stroud Lake	MHn45	Northern Mesic Hardwood (Cedar) Forest	S2, S3, S4	3
Stroud Lake	WFn53	Northern Wet Cedar Forest	S3, S4	1
Stroud Lake	WFn55	Northern Wet Ash Swamp	S3, S4	1
Stroud Lake	WFn55a	Black Ash - Aspen - Balsam Poplar Swamp (Northeastern)	S4	2
Stroud Lake	WFn64	Northern Very Wet Ash Swamp	S4	3
Stroud Lake	WMn82b	Sedge Meadow	S4 or S5	1
Twin Lakes Hardwoods	FDn43	Northern Mesic Mixed Forest	S2, S3, S5	1
Twin Lakes Hardwoods	FDn43b1	Aspen - Birch Forest, Balsam Fir Subtype	S5	1
Twin Lakes Hardwoods	FDn43c	Upland White Cedar Forest	S3	1
Twin Lakes Hardwoods	MHn45	Northern Mesic Hardwood (Cedar) Forest	S2, S3, S4	1
Twin Lakes Hardwoods	MHn45b	White Cedar - Yellow Birch Forest	S2	4

MBS Site Name	NPC Code	Native Plant Community Classification	Conservation Status Rank	Number of Communities
Twin Lakes Hardwoods	MHn45c	Sugar Maple Forest (North Shore)	S3	1
Twin Lakes Hardwoods	MHn46	Northern Wet-Mesic Hardwood Forest	S4	1
Twin Lakes Hardwoods	MHn47a	Sugar Maple - Basswood - (Bluebead Lily) Forest	S3	2
Twin Lakes Hardwoods	WFn55	Northern Wet Ash Swamp	S3, S4	1
Twin Lakes Hardwoods	WMn82a	Willow - Dogwood Shrub Swamp	S5	1
Not Within MBS Site	FDn43	Northern Mesic Mixed Forest	S2, S3, S5	6
Not Within MBS Site	FPn73	Northern Rich Alder Swamp	S5	2
Not Within MBS Site	MHn44	Northern Wet-Mesic Boreal Hardwood-Conifer Forest	S2, S3, S3S4, S4	2
Not Within MBS Site	WFn53	Northern Wet Cedar Forest	S3, S4	2
Not Within MBS Site	WFn55	Northern Wet Ash Swamp	S3, S4	1

Thirteen (13) Category 2B and 2C Routes intersect MNDNR-mapped NPCs. Category 2B and 2C Routes are sited on existing alignments that may require improvements for new ATV use, however the existing condition of each specific trail alignment varies, and some alignments may be well-maintained whereas others are overgrown. Impacts to NPCs as a result of improvements to Category 2B and 2C routes are not anticipated, due to the existing alignments, however if any impacts are unavoidable, these would be determined during final design and permitted with the appropriate regulatory agencies.

MNDNR-Mapped Native Plant Communities Intersected by Category 2 Routes

Trail Group	Proposed Trail Segment	NPC Code	Native Plant Community Classification	Conservation Status Rank
Taft to Canyon	(E) Route Alt	MHn45	Northern Mesic Hardwood (Cedar) Forest	S2, S3, S4
Canyon to Cotton	Connector North	MHn44	Northern Wet-Mesic Boreal Hardwood-Conifer Forest	S2, S3, S3S4, S4
Road Route Connections	Harris Rd	FPn73	Northern Rich Alder Swamp	S5
Road Route Connections	Harris Rd	APn81	Northern Poor Conifer Swamp	S4, S5
Taft to Canyon	Harris West	MHn44	Northern Wet-Mesic Boreal Hardwood-Conifer Forest	S2, S3, S3S4, S4
Taft to Canyon	Harris West	MHn45	Northern Mesic Hardwood (Cedar) Forest	S2, S3, S4
Taft to Canyon	Independence FR to Harris Rd	BW_CX	Beaver Wetland Complex	S2, S3, S4, S5
Taft to Canyon	Independence FR to Harris Rd	FDn43b1	Aspen - Birch Forest, Balsam Fir Subtype	S5
Taft to Canyon	Independence FR to Harris Rd	MHn45b	White Cedar - Yellow Birch Forest	S2

Trail Group	Proposed Trail Segment	NPC Code	Native Plant Community Classification	Conservation Status Rank
Taft to Canyon	Independence FR to Harris Rd West Loop	MHn45	Northern Mesic Hardwood (Cedar) Forest	S2, S3, S4
Taft to Canyon	Independence FR to Harris Rd West Loop	MHn45a	Paper Birch - Sugar Maple Forest (North Shore)	S4
Taft to Canyon	Independence FR to Harris Rd West Loop	MHn46	Northern Wet-Mesic Hardwood Forest	S4
Taft to Canyon	Independence FR to Harris Rd West Loop	WFn64	Northern Very Wet Ash Swamp	S4
Taft to Canyon	Independence FR to Shipley Rd Cut Off	MHn45a	Paper Birch - Sugar Maple Forest (North Shore)	S4
Taft to Canyon	Independence FR to Shipley Rd Cut Off	BW_CX	Beaver Wetland Complex	S2, S3, S4, S5
Taft to Canyon	Independence FR to Shipley Rd Cut Off	MHn45	Northern Mesic Hardwood (Cedar) Forest	S2, S3, S4
Taft to Canyon	Lost Lake Trail	MHn47a	Sugar Maple - Basswood - (Bluebead Lily) Forest	S3
Taft to Canyon	Lost Lake Trail	FDn43b1	Aspen - Birch Forest, Balsam Fir Subtype	S5
Taft to Canyon	Lost Lake Trail	BW_CX	Beaver Wetland Complex	S2, S3, S4, S5
Taft to Canyon	Lost Lake Trail	MHn45a	Paper Birch - Sugar Maple Forest (North Shore)	S4
Taft to Canyon	Lost Lake Trail	FDn43b1	Aspen - Birch Forest, Balsam Fir Subtype	S5
Taft to Canyon	Mud Lake to Harris Rd	FDn43b1	Aspen - Birch Forest, Balsam Fir Subtype	S5
Taft to Canyon	Mud Lake to Harris Rd	MHn45a	Paper Birch - Sugar Maple Forest (North Shore)	S4
Taft to Canyon	Mud Lake to Harris Rd	BW_CX	Beaver Wetland Complex	S2, S3, S4, S5
Canyon to Cotton	Nevens Lake Loop	WFn55	Northern Wet Ash Swamp	S3, S4
Canyon to Cotton	Nevens Lake Loop	FDn43	Northern Mesic Mixed Forest	S2, S3, S5
Canyon to Cotton	Radio Rd Loops East Connector	MHn45b	White Cedar - Yellow Birch Forest	S2
Canyon to Cotton	Radio Rd Loops East Connector	MHn46	Northern Wet-Mesic Hardwood Forest	S4
Canyon to Cotton	Radio Rd Loops East Connector	MHn45	Northern Mesic Hardwood (Cedar) Forest	S2, S3, S4

Trail Group	Proposed Trail Segment	NPC Code	Native Plant Community Classification	Conservation Status Rank
Canyon to Cotton	Radio Rd Loops East Connector	MHn45c	Sugar Maple Forest (North Shore)	S3
Canyon to Cotton	Radio Rd Loops East Connector	WMn82a	Willow - Dogwood Shrub Swamp	S5
Canyon to Cotton	Radio Rd Loops East Connector	MHn45b	White Cedar - Yellow Birch Forest	S2
Canyon to Cotton	Radio Rd Loops East Connector	MHn45	Northern Mesic Hardwood (Cedar) Forest	S2, S3, S4
Canyon to Cotton	Radio Rd South Loop	WFn64	Northern Very Wet Ash Swamp	S4
Taft to Canyon	Taft to Harris Rd	FPn73a	Alder - (Maple - Loosestrife) Swamp	S5
Taft to Canyon	Trapper Trail	FDn43b1	Aspen - Birch Forest, Balsam Fir Subtype	S5
Canyon to Cotton	Water Trail Bypass	MHn45	Northern Mesic Hardwood (Cedar) Forest	S2, S3, S4
Canyon to Cotton	West Twin Lake Trail	MHn45b	White Cedar - Yellow Birch Forest	S2
Taft to Canyon	Wetlands Bypass for Taft Loop	MHn45	Northern Mesic Hardwood (Cedar) Forest	S2, S3, S4
Canyon to Cotton	Wood Duck Trail	WFn53	Northern Wet Cedar Forest	S3, S4
Canyon to Cotton	Wood Duck Trail	FDn43b1	Aspen - Birch Forest, Balsam Fir Subtype	S5
Canyon to Cotton	Wood Duck Trail	MHn45b	White Cedar - Yellow Birch Forest	S2
Canyon to Cotton	Wood Duck Trail	MHn45	Northern Mesic Hardwood (Cedar) Forest	S2, S3, S4
Canyon to Cotton	Wood Duck Trail	MHn47a	Sugar Maple - Basswood - (Bluebead Lily) Forest	S3
Canyon to Cotton	Wood Duck Trail	FDn43c	Upland White Cedar Forest	S3
Canyon to Cotton	Wood Duck Trail	MHn45b	White Cedar - Yellow Birch Forest	S2
Canyon to Cotton	Wood Duck Trail	FDn43b1	Aspen - Birch Forest, Balsam Fir Subtype	S5
Canyon to Cotton	Wood Duck Trail - South Route	FDn43b1	Aspen - Birch Forest, Balsam Fir Subtype	S5
Canyon to Cotton	Wood Duck Trail - South Route	FDn43	Northern Mesic Mixed Forest	(S2, S3, S5)
Canyon to Cotton	Wood Duck Trail - South Route	FDn43b1	Aspen - Birch Forest, Balsam Fir Subtype	S5

MNDNR-mapped NPCs and Category 3 Routes are described below.

MNDNR-Mapped Native Plant Communities within 330 feet of Category 3 Routes

MBS Site Name	NPC Code	Native Plant Community Classification	Conservation Status Rank	Number of Communities
Chicken Creek Hardwoods	AFP_CX	Alder Swamp / Forested Peatland Complex	(S3, S4, S5)	1
Chicken Creek Hardwoods	MHn45	Northern Mesic Hardwood (Cedar) Forest	(S2, S3, S4)	2
Twin Lakes Hardwoods	MHn45b	White Cedar – Yellow Birch Forest	(S2)	1
Chicken Creek Hardwoods	WFn53	Northern Wet Cedar Forest	(S3, S4)	2
Chicken Creek Hardwoods	WFn64	Northern Very Wet Ash Swamp	(S4)	2

Three (3) Category 3 Routes intersect MNDNR-mapped NPCs. All Category 3 Routes would involve the conversion of a given area of the NPC to the ATV trail corridor. These are summarized in the table below.

MNDNR-Mapped Native Plant Communities Intersected by Category 3 Routes

Trail Group	Proposed Trail Segment	MBS Site Name	NPC Code	Native Plant Community Classification	Conservation Status Rank
Canyon to Cotton	Twin Lakes Rd - Private Property Alt	Twin Lakes Hardwoods	MHn45b	White Cedar - Yellow Birch Forest	S2
Canyon to Cotton	West Twin Lake Alternative	Stroud Lake	MHn45	Northern Mesic Hardwood (Cedar) Forest	(S2, S3, S4)
Taft to Canyon	Wetlands Bypass for Taft Loop	Chicken Creek Hardwoods	WFn64	Northern Very Wet Ash Swamp	(S4)
Taft to Canyon	Wetlands Bypass for Taft Loop	Chicken Creek Hardwoods	MHn45	Northern Mesic Hardwood (Cedar) Forest	(S2, S3, S4)
Taft to Canyon	Wetlands Bypass for Taft Loop	Chicken Creek Hardwoods	AFP_CX	Alder Swamp / Forested Peatland Complex	(S3, S4, S5)

Fisheries

The project is in an area known for its plentiful lake and stream resources. Fish commonly sought by anglers in the proposed project area are typified by coldwater and warmwater game fishes, such as walleye, sauger, northern pike, smallmouth bass, sport fish (sunfish and crappies), and small forage fish (minnows, shiners, and darters). The walleye fishery attracts anglers to the area and many lakes are managed for walleye through stocking and fishing regulations. Deeper lakes in the area also possess a coldwater fish community which includes species such as lake trout, whitefish, cisco, and burbot. Additionally, state-designated trout streams in the project area possess populations of brook trout.

Wildlife

Resident wildlife in the proposed project area includes species common to areas with conifer and mixed forest, such as beaver, wolves, black bear, northern long-eared bat, bald eagle, spruce grouse, ruffed grouse, whitetail deer, moose, woodcock, an array of songbirds, hawks, and owls; many small mammals such as voles, shrews, and squirrels; and furbearers such as fisher, marten, red and gray fox, mink, and otter. Rare species are discussed in more detail under EAW Item 14b below.

Birds

The overall project is within one-mile of three (3) Important Bird Areas (IBAs): the Superior National Forest, the South-Central North Shore, and the Sax-Zim Bog. Information about these IBAs can be retrieved from the National Audubon Society's Important Bird Areas website¹⁴.

Only portions of the Comstock Lake Road to Hwy 16 Category 1 route intersect the Superior National Forest IBA. The McArthur & Hwy 47, Burnett to Albion Road, CR 7 Road Route, Swan Lake Rd Road Route, Canyon Connector Road Route, Shipley Rd Road Route, and the Stoney Brook Road Route intersect the Sax-Zim Bog IBA. No Category 2B, 2C, 2D, or Category 3 routes intersect any IBAs.

- b. Describe rare features such as state-listed (endangered, threatened or special concern) species, native plant communities, Minnesota Biological Survey Sites of Biodiversity Significance, and other sensitive ecological resources on or within close proximity to the site. Provide the license agreement number (LA-____) and/or correspondence number (MCE_____) from which the data were obtained and attach the Natural Heritage Review letter from the MNDNR. Indicate if any additional habitat or species survey work has been conducted within the site and describe the results.

Category 1 routes were not reviewed as these are existing transportation corridors where no work/construction activities are needed or proposed. Guidance from MNDNR through the early coordination review process is that Category 2 and 3 trail segments should be submitted for Natural Heritage Review as they have the proposed disturbance activities. Categories 2 and 3 were reviewed through the Minnesota Conservation Explorer (MCE) under SEH License #2024-062 and through a request for a Natural Heritage Review as described in further detail below.

MN MNDNR Consultation

A request for a Natural Heritage Review was submitted through the MCE on May 16, 2025. Correspondence #MCE 2025-00462 was received on August 4, 2025 (Attachment E), which indicated the following rare features may be impacted by the proposed project, including Ecologically Significant Areas, State-listed Species, and Federally listed Species. These features are discussed in detail below.

State-Listed Species

Minnesota's Endangered Species Statute (Minnesota Statutes, Section 84.0895) requires the MNDNR to adopt rules designating species meeting the statutory definitions of endangered, threatened, or species of special concern.

State-listed species that may be impacted by the project (as described in the NHIS letter) are summarized in the table, below.

State Listed Species

¹⁴ [IBA Explorer | Important Bird Areas](#)

Taxonomic Group	Species	Status	Habitat ¹
Vascular Plant	Narrow Triangle Moonwort (<i>Botrychium angustisegmentum</i>)	Threatened	Moist, shady, mature northern hardwood forests. Transition zones from hardwood forests to wetlands.
Vertebrate Animal	Blanding's Turtle (<i>Emydoidea blandingii</i>)	Threatened	A wide variety of wetland types and riverine habitat. Wetland complexes and adjacent sandy uplands are necessary to support viable populations of Blanding's turtles.
Vertebrate Animal	Four-toed Salamander (<i>Hemidactylium scutatum</i>)	Special Concern	four-toed salamanders live in mature upland deciduous or mixed deciduous-coniferous forests interspersed with sphagnum seepages, vernal ponds, or other fish-free habitats that serve as nesting sites.
Fungus	Yellow Specklebelly Lichen (<i>Pseudocyphellaria holarctica</i>)	Endangered	Habitats that are moist, shady, and often foggy. Substrates for this lichen are varied, including mossy rocks and a variety of trees, especially <i>Thuja occidentalis</i> and <i>Fraxinus nigra</i> in forested wetlands and mature hardwood and conifer forests.
Vascular Plant	Blunt-lobed Grapefern (<i>Sceptridium oneidense</i>)	Threatened	Mesic hardwood forests usually in moist loam in low areas, swamp edges, or between the high and low water marks of vernal pools.
Vascular Plant	Eastern Hemlock (<i>Tsuga canadensis</i>)	Endangered	Mixed hardwood-conifer forests with <i>Betula alleghaniensis</i> , <i>Thuja occidentalis</i> , <i>Pinus strobus</i> , or <i>Picea glauca</i> , typically on moist and well-drained soils in cool and sheltered valleys and ravines.

1. Habitat information is directly or adapted from the MNDNR's Rare Species Guide:

<https://www.MNDNR.state.mn.us/rsg/index.html>.

Federally-Listed Species

According to a planning-level query of the U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Consultation System (IPaC), requested on May 22, 2025, the project area is within the distribution range of seven (7) federally-listed species. These include the endangered northern long-eared bat (*Myotis septentrionalis*), the proposed endangered tricolored bat (*Perimyotis subflavus*), the threatened Canada lynx (*Lynx canadensis*), the threatened gray wolf (*Canis lupus*), the rufa red knot (*Calidris canutus rufa*), the candidate monarch butterfly (*Danaus plexippus*), and the proposed endangered Suckley's cuckoo bumble bee (*Bombus suckleyi*) as summarized below. Routes of Categories 2B, 2C, 2D, and 3 intersect mapped critical habitat of the gray wolf and the Canada lynx.

Federally Listed Species

Species	Status	Habitat
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	Endangered	Roosts in trees in forests from April through October. Hibernates in caves and mines from October through April.
Tricolored Bat (<i>Perimyotis subflavus</i>)	Proposed Endangered	Occurrences in forests in southeastern Minnesota. Hibernates in caves and mines from October through April.

Canada Lynx (<i>Lynx canadensis</i>)	Threatened	Boreal spruce-fir forest ecosystems with dense trees and understory, covering large tracts of area.
Gray Wolf (<i>Canis lupus</i>)	Threatened	Occupies a diversity of habitats, including conifer and hardwood forests and forested peatlands.
Rufa Red Knot (<i>Calidris canutus rufa</i>)	Threatened	Uses estuarine habitats with large areas of exposed sediments in migration and wintering.
Monarch Butterfly (<i>Danaus plexippus</i>)	Candidate	Grassland/prairie habitat where milkweeds (<i>Asclepias</i> spp.) and other forbs are present.
Suckley's Cuckoo Bumble Bee (<i>Bombus suckleyi</i>)	Proposed	Meadow habitat with a high diversity of nectar and pollen sources.

Review of the Category 2B, 2C, 2D, and 3 routes using the Minnesota-Wisconsin Endangered Species Determination Key resulted in a “may affect” determination for Canada lynx, and Canada lynx and gray wolf critical habitat. If running the consultation for a federal action, this would require further consultation with USFWS. Other listed species come back with a determination of "no effect" or "may affect, but not likely to adversely affect" which does not require further consultation with USFWS.

Review of the Category 2B, 2C, 2D, and 3 routes using the Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key resulted in a “may affect, not likely to adversely affect” determination for northern long-eared bat and tricolored bat.

Bald and Golden Eagles are federally protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. Bald Eagles require adequate foraging, perching, and nesting areas and typically found near rivers, lakes, and marshes, although can also be found in farmland and suburban habitat.

Minnesota Biological Survey (MBS) Sites of Biodiversity Significance

Sites of Biodiversity Significance have varying levels of native biodiversity and are ranked based on the relative significance of this biodiversity at a statewide level. Sites ranked as High contain very good quality occurrences of the rarest species, high quality examples of the rare native plant communities, and/or important functional landscapes. Sites ranked as Moderate contain occurrences of rare species and/or moderately disturbed native plant communities, and/or landscapes that have a strong potential for recovery.

The MNDNR Biological Survey Sites data layer, accessible through the MCE, identified Sites of Biodiversity Significance intersecting the proposed 40-foot review corridor of the project route (see below). The MBS sites are shown in relation to the project segments on Figures 9a through 9i. Actions to help minimize disturbance of ecologically significant areas are discussed below in EAW Item 14.d.

Minnesota Biological Survey (MBS) Sites of Biodiversity Significance Intersecting Category 2 Routes

Name	Ranking	Status	Trail Corridor Intersections?	Trail Group	Proposed Segment
Arlberg Bog	High	Preliminary	Yes	Brookston Loop	River Overlook Intersect to Hwy 8 Trail

Name	Ranking	Status	Trail Corridor Intersections?	Trail Group	Proposed Segment
St Louis River - Brookston	Moderate	Preliminary	Yes	Brookston Loop	Hwy 31 to Eklund Rd
St Louis River - Brookston	Moderate	Preliminary	Yes	Brookston Loop	Langley FR to River Overlook Intersect
St Louis River - Brookston	Moderate	Preliminary	Yes	Brookston Loop	River Overlook Spur
Boulder Lake North Shore	Below	Final	Yes	Canyon to Cotton	Wood Duck Trail – South Route
Twin Lakes Hardwoods	Outstanding	Final	Yes	Canyon to Cotton	Wood Duck Trail – South Route
Stroud Lake	High	Final	Yes	Canyon to Cotton	Wood Duck Trail – South Route
Chicken Creek Hardwoods	High	Final	Yes	Canyon to Cotton	Connector North
Chicken Creek Hardwoods	High	Final	Yes	Canyon to Cotton	Uskabwanka Trail
Stroud Lake	High	Final	Yes	Canyon to Cotton	Nevens Lake Loop
Stroud Lake	High	Final	Yes	Canyon to Cotton	Radio Rd Loops East Connector
Twin Lakes Hardwoods	Outstanding	Final	Yes	Canyon to Cotton	Radio Rd Loops East Connector
Stroud Lake	High	Final	Yes	Canyon to Cotton	Radio Rd North Loop
Upper Uskabwanka	Moderate	Final	Yes	Canyon to Cotton	Radio Rd North Loop
Stroud Lake	High	Final	Yes	Canyon to Cotton	Radio Rd South Loop
Upper Uskabwanka	Moderate	Final	Yes	Canyon to Cotton	Radio Rd South Loop
Stroud Lake	High	Final	Yes	Canyon to Cotton	Radio Rd Trail
Upper Uskabwanka	Moderate	Final	Yes	Canyon to Cotton	Radio Rd Trail
Stroud Lake	High	Final	Yes	Canyon to Cotton	Water Trail Bypass
Upper Uskabwanka	Moderate	Final	Yes	Canyon to Cotton	Water Trail Bypass
Twin Lakes Hardwoods	Outstanding	Final	Yes	Canyon to Cotton	Twin Lakes Rd Alternative
Twin Lakes Hardwoods	Outstanding	Final	Yes	Canyon to Cotton	West Twin Lake Trail
Twin Lakes Hardwoods	Outstanding	Final	Yes	Canyon to Cotton	Wood Duck to Twin Lakes Rd
Twin Lakes Hardwoods	Outstanding	Final	Yes	Canyon to Cotton	Wood Duck Trail
Arlberg Bog	High	Preliminary	Yes	Floodwood Loop	Floodwood Loop to Brookston Loop Connector

Name	Ranking	Status	Trail Corridor Intersections?	Trail Group	Proposed Segment
Arlberg Bog	High	Preliminary	Yes	Floodwood Loop	North Loop
McCarty River	Moderate	Preliminary	Yes	Floodwood Loop	North Loop
McCarty River	Moderate	Preliminary	Yes	Floodwood Loop	South Loop
Grand Lake Swamp	Moderate	Final	Yes	Lumberjack Extension	Saginaw Rd to Highway 8
Brevator woods	Moderate	Final	Yes	Lumberjack to Brookston	Lumberjack to Hwy 2
Chicken-Hellwig Headwaters	Moderate	Final	Yes	Taft to Canyon	(E) Route Alt
Chicken-Hellwig Headwaters	Moderate	Final	Yes	Taft to Canyon	Harris West
Chicken-Hellwig Headwaters	Moderate	Final	Yes	Taft to Canyon	Independence FR to Harris RD
Third Lake	Moderate	Final	Yes	Taft to Canyon	Independence FR to Harris Rd
Chicken-Hellwig Headwaters	Moderate	Final	Yes	Taft to Canyon	Independence FR to Harris RD West Loop
Chicken-Hellwig Headwaters	Moderate	Final	Yes	Taft to Canyon	Independence FR to Shipley Rd Cut Off
Chicken-Hellwig Headwaters	Moderate	Final	Yes	Taft to Canyon	Wetlands Bypass for Taft Loop
Chicken Creek Hardwoods	High	Final	Yes	Taft to Canyon	Independence FR to Harris Rd
Cloquet River Side Lake	Moderate	Final	Yes	Taft to Canyon	Fredenburg East (Public Alt)
Cloquet River Side Lake	Moderate	Final	Yes	Taft to Canyon	Fredenburg Trail
Lost Lake Hardwoods	High	Final	Yes	Taft to Canyon	Lost Lake Trail
Lost Lake Hardwoods	High	Final	Yes	Taft to Canyon	Mud Lake to Harris Rd
Third Lake	Moderate	Final	Yes	Taft to Canyon	Mud Lake to Harris Rd
Lost Lake Hardwoods	High	Final	Yes	Taft to Canyon	Mud Lake to Taft Cut Across
Third Lake	Moderate	Final	Yes	Taft to Canyon	(E) ATV Trail
Third Lake	Moderate	Final	Yes	Taft to Canyon	Independence FR Spine Trail
Third Lake	Moderate	Final	Yes	Taft to Canyon	Independence FR to Mud Lake
Third Lake	Moderate	Final	Yes	Taft to Canyon	Loop Connector
Third Lake	Moderate	Final	Yes	Taft to Canyon	Original Trail Route
Lost Lake Hardwoods	High	Final	Yes	Taft to Canyon	Trapper Trail

Name	Ranking	Status	Trail Corridor Intersections?	Trail Group	Proposed Segment
Third Lake	Moderate	Final	Yes	Taft to Canyon	Third Lake Trail
Fish Lake Reservoir	Moderate	Final	Yes	West Lavaque Trail System	Fish Lake Water Access
Fish Lake Reservoir	Moderate	Final	Yes	West Lavaque Trail System	Industrial Rd to Lavaque S
Fish Lake Reservoir	Moderate	Final	Yes	West Lavaque Trail System	Industrial to Lavaque North
Fish Lake Reservoir	Moderate	Final	Yes	West Lavaque Trail System	Midway Cut Across
Fish Lake Reservoir	Moderate	Final	Yes	West Lavaque Trail System	Water Access Loop
Brevator woods	Moderate	Final	Yes	Road Route Connections	Morris Thomas Connector
Chicken Creek Hardwoods	High	Final	Yes	Road Route Connections	Harris Rd
Thomson wetlands	Moderate	Final	Yes	Road Route Connections	Proctor to Scanlon
Pine Island floodplain forest	Moderate	Final	No	N/A	N/A
Bergen Lake	Moderate	Final	No	N/A	N/A
Three Lakes Peatlands - East	Moderate	Preliminary	No	N/A	N/A
Wild Rice Lake-Canosia Wetlands	Moderate	Final	No	N/A	N/A

Minnesota Biological Survey (MBS) Sites of Biodiversity Significance Intersecting Category 3 Routes

Trail Group	Proposed Segment	Trail Corridor Intersections?	Name	Ranking	Status
Brookston Loops	River Overlook Intersect to Hwy 8 Trail	Yes	Arlberg Bog	High	Preliminary
Brookston Loops	Hwy 31 to Eklund Rd	Yes	St. Louis River - Brookston	Moderate	Preliminary
Brookston Loops	Brookston to Burnett	Yes	Industrial Peatland	Moderate	Final
Canyon to Cotton	Radio Rd North Loop	Yes	Stroud Lake	High	Final
Canyon to Cotton	Wood Duck Trail	Yes	Twin Lakes Hardwoods	Outstanding	Final
Canyon to Cotton	Radio Rd Loops East Connector	Yes	Twin Lakes Hardwoods	Outstanding	Final

Canyon to Cotton	Radio Rd Loops East Connector	Yes	Stroud Lake	High	Final
Canyon to Cotton	West Twin Lake Trail	Yes	Twin Lakes Hardwoods	Outstanding	Final
Canyon to Cotton	Twin Lakes Rd – Private Property Alt	Yes	Twin Lakes Hardwoods	Outstanding	Final
Canyon to Cotton	Twin Lakes Rd – Private Property Alt	Yes	Stroud Lake	High	Final
Canyon to Cotton	West Twin Lake Alternative	Yes	Twin Lakes Hardwoods	Outstanding	Final
Canyon to Cotton	West Twin Lake Alternative	Yes	Stroud Lake	High	Final
Lumberjack Extension	Saginaw Rd to Highway 8 Alternative	Yes	Grand Lake Swamp	Moderate	Final
Lumberjack to Brookston	Lumberjack to Potlatch Corner Alt	Yes	Brevator Woods	Moderate	Final
Lumberjack to Brookston	Lumberjack to Highway 2	Yes	Brevator Woods	Moderate	Final
Lumberjack to Brookston	Cord Rd to Lumberjack Connector	Yes	Brevator Woods	Moderate	Final
Taft to Canyon	Wetlands Bypass for Taft Loop	Yes	Chicken- Hellwig Headwaters	Moderate	Final
Taft to Canyon	E ATV Alternate	Yes	Third Lake	Moderate	Final
Taft to Canyon	Bog Bypass	Yes	Third Lake	Moderate	Final

Calcareous Fens

No calcareous fens were identified within 5 miles of the project area.

MNDNR Old Growth Stands

Five (5) MNDNR Old Growth Stands were identified within 330 feet of Category 2 routes.

MNDNR Old Growth Stands within 330 Feet of Category 2 Routes

Route	Route Crossing	Stand Key	Current Age (Years)	Label
Mud Lake to Taft Cut Across - Taft to Canyon	No	467460	98	67460 NH54
Mud Lake to Harris Rd - Taft to Canyon	No	467466	98	67466 NH54
Lost Lake Trail - Taft to Cotton	No	467531	93	67531 NH41
Radio Rd Trail - Canyon to Cotton	No	466982	168	66982 BSL42
Lost Lake Trail - Taft to Cotton	Yes	467496	128	67496 NH56

The Lost Lake Trail - Taft to Cotton segment intersects the 67496 NH56 MNDNR Old Growth Stand.

No other stands are intersected by Category 2 routes.

No MNDNR Old Growth Stands were identified within 330 feet of any Category 3 routes.

Minnesota Prairie Conservation Plan

The Minnesota Prairie Conservation Plan, a 25-year strategy for accelerating prairie conservation in the state, identifies Core Areas, Corridors, and Corridor Complexes as areas in which to focus conservation efforts. No Core Areas, Corridors, or Corridor Complexes were identified in the vicinity of Project.

Lakes of Biological Significance

These are described in further detail in Item 12.a.i above. One (1) Lake of Biological Significance was identified within 330 feet of Category 2 routes. This was Fish Lake Flowage. No impacts to Fish Lake Flowage are anticipated to result from any improvements along these routes.

No Lakes of Biological Significance were identified within 330 feet of any Category 3 routes.

- c. Discuss how the identified fish, wildlife, plant communities, rare features and ecosystems may be affected by the project including how current Minnesota climate trends and anticipated climate change in the general location of the project may influence the effects. Include a discussion on introduction and spread of invasive species from the project construction and operation. Separately discuss effects to known threatened and endangered species.

Species Impacts

The proposed project areas that have not been previously open to ATV use (i.e., Route Categories 2B, 2C, 2D, and 3) could be more vulnerable to impacts. ATV-related construction and operation could alter the quality of wildlife habitats compared to no additional use. Species currently conditioned to the proposed project site would be subject to new types of disturbance caused by human activity and noise associated with ATV use. Noise would be generated by individual ATVs or collectively when ridden in groups. Where trails are near roads, wildlife in the area may already be conditioned to noise and disturbance from human-related activities. In more remote areas, the noise and disturbance associated with ATV use may cause more sensitive species to alter their habits to avoid noise. Large predators (e.g., gray wolves, coyotes, bobcats, and Canada lynx) may utilize existing trail corridors for travel and hunting. ATV use of these routes may alter predator travel and hunting patterns.

Bald Eagles may be impacted by the project, specifically due to increased traffic on existing routes and new traffic on previously undisturbed areas (Category 3 trail). Disturbance could cause eagles to avoid or abandon their nests; however, responses vary depending on the type, intensity, duration, and timing of the human encounter. Generally, eagles are most sensitive to human disturbances during the nest building, egg laying, and egg incubation periods, which are typically from February to May 30. The USFWS breeding season dates for Minnesota in which eagle nests are not be disturbed in January 15 to August 15.

Habitat connectivity is important to the viability of small wildlife populations, such as amphibians. Impacts on smaller wildlife (e.g., amphibians, birds, insects) will occur due to collisions with ATVs. During construction, “natural netting” or “bio netting” erosion control would be specified to avoid impacts to smaller wildlife. Fragmentation and habitat loss can adversely impact species distribution and diversity. Habitat fragmentation would be avoided and minimized to the greatest extent possible, by utilizing existing trail corridors and previously disturbed areas. Extending trail use into spring, summer, and fall may disrupt seasonal movements of wildlife along these routes; however, the disruptions due to ATV use are anticipated to be intermittent, sporadic, and temporary in nature.

Impacts to the gray wolf and Canada lynx are anticipated to be negligible. The trails largely follow existing corridors which minimizes habitat conversion. Extending trail use into spring, summer, and fall may disrupt seasonal movements of wildlife along these routes; however, the disruptions are anticipated to be intermittent, sporadic, and temporary in nature. Noise generated by trail users would be temporary and short in duration but would be anticipated to temporarily displace the gray wolf or Canada lynx away from the trail.

Native Plant Community Impacts

The potential for impacts on native plant communities includes construction related effects of direct excavation and fill, erosion/sedimentation, and transportation of nonnative noxious and/or invasive species. Ongoing ATV use can cause soil disturbance that helps facilitate the establishment of many nonnative plant species. ATV use can also contribute to the spread of these species through the trail system. The proposed trail improvements would reconstruct portions of existing trails that have shown signs of rutting, erosion, and wear. Maintenance needs, including erosion, trail-reshaping, culvert conditions, noxious/invasive species, etc. would be monitored following the GIA program to identify maintenance priorities and a monitoring schedule. This also involves the MNDNR Trail Ambassador program in which volunteers, who are trained to identify noxious/invasive species and appropriate trail conditions, assist with trail monitoring.

Three Category 3 Routes intersect MNDNR-mapped NPCs. Not all NPCs have been mapped and classified by the MNDNR. NPCs are likely present along Category 3 Routes. NPCs along these routes would be converted to ATV trail corridor.

Invasive Species

According to EDDmaps¹⁵, there are 44 known infestations of invasives species in St. Louis and Carlton counties. Of these known infestations, three (3) are located within 0.5-miles of the proposed TATR system, including two (2) infestations of Bohemian knotweed (*Reynoutria x bohemica*) approximately 815 from the Proctor Route 1 road route and approximately 300 feet from the Proctor to Lumberjack road route. An infestation of purple loosestrife (*Lythrum salicaria*) is located at the intersection of the Solway Rd road route and the Proctor to Lumberjack road route. All of the trail segments within 0.5 miles of these known infestations are situated on road routes. ATV traffic would be contained to the roadbed, therefore

¹⁵ [EDDMapS](#)

no ATV traffic through these infestations would be anticipated.

Additional infestations of invasive species not documented are EDDmaps may be present, however these locations in relation to the TATR system are not known.

- d. Identify measures that will be taken to avoid, minimize, or mitigate the adverse effects to fish, wildlife, plant communities, ecosystems, and sensitive ecological resources.

State-listed Species

As required by the NHIS letter (MCE 2025-00462), to demonstrate avoidance of state-listed species, a qualified surveyor will need to determine if suitable habitat exists within the activity impact area and, if so, conduct a survey prior to any project activities. To demonstrate avoidance for the construction of new trails (Category 3), a qualified surveyor will need to determine if suitable habitat exists within the activity impact area of the new trails listed below and, if so, conduct a survey prior to any project activities.

For existing trails (Category 2B, 2C, and 2D) listed below, TATR's consultants will use their NHIS License Agreement to identify areas with known occurrences of threatened and endangered species. Trails where work will occur within the existing trail footprint do not need to be surveyed for state-listed species.

Appropriate surveys will be conducted prior to project implementation where required.

Category 2B, 2C, and 2D Trail Segments Requiring T&E Survey if Work Occurs Outside Existing Footprint

Trail Name	Trail Group	Length (mi)	Route Category	Preferred or Alternate
Connector North	Canyon to Cotton	6.5	2C	Preferred
Nevens Lake Loop	Canyon to Cotton	4.9	2C	Alternate
Radio Rd Loops East Connector	Canyon to Cotton	1.2	2C	Alternate
Radio Rd North Loop	Canyon to Cotton	2.3	2C	Alternate
Radio Rd South Loop	Canyon to Cotton	2.4	2C	Alternate
Twin Lakes Rd Alternative	Canyon to Cotton	0.8	2C	Alternate
West Twin Lake Trail	Canyon to Cotton	1.6	2C	Alternate
Wood Duck to Twin Lakes Rd	Canyon to Cotton	0.3	2C	Alternate
Wood Duck Trail	Canyon to Cotton	8.5	2C	Preferred
Independence FR Spine Trail	Taft to Canyon	4.0	2B	Preferred
Independence FR to Harris Rd	Taft to Canyon	1.1	2B	Preferred
Independence FR to Harris Rd	Taft to Canyon	2.8	2C	Alternate
Independence FR to Harris Rd West Loop	Taft to Canyon	1.9	2B	Preferred
Independence FR to Harris Rd West Loop	Taft to Canyon	0.7	2C	Alternate
Independence FR to Shipley Rd Cut Off	Taft to Canyon	3.8	2B	Preferred
Independence FR to Shipley Rd Cut Off	Taft to Canyon	0.7	2B	Alternate
Lost Lake Trail	Taft to Canyon	2.7	2B	Preferred
Lost Lake Trail	Taft to Canyon	0.3	2C	Preferred
Mud Lake to Harris Rd	Taft to Canyon	5.9	2B	Preferred
Mud Lake to Taft Cut Across	Taft to Canyon	2.2	2C	Alternate

For all trail segments with tree removal in suitable habitat for Eastern hemlock (*Tsuga canadensis*), a qualified surveyor will need to identify any trees that are proposed to be removed.

This project has the potential to impact Blanding's turtle through direct fatalities and habitat disturbance/destruction due to activities associated with the proposed project. Additionally, increased traffic and vehicle access in turtle habitat areas increases risk of take for turtles. As such, the following avoidance measures are required:

- Avoid wetland and aquatic impacts during hibernation season, between September 15 and April 15, if the area is suitable for hibernation.
- Limit erosion and sediment control to wildlife friendly erosion control¹⁶
- Check bare ground within construction areas for turtles before the use of heavy equipment or any ground disturbance
- The Blanding's turtle flyer¹⁷ must be given to all contractors working in the area
- Report any sightings using the DNR Plant and Animal Observation Form¹⁸
- If turtles are in imminent danger, move them by hand out of harm's way¹⁹; otherwise, they are to be left undisturbed

Additional Blanding's turtle avoidance measures may include, but are not limited to, the following recommendations:

- Recommendations from List 1 and List 2 of the Blanding's turtle fact sheet²⁰
- Avoid hydro-mulch products that contain any materials with synthetic (plastic) fiber additives, as the fibers can re-suspend and flow into waterbodies
- Avoid disturbance, including tree removal, within the floodplain habitat along rivers as much as feasible, especially April through late September

In order to minimize adverse impacts to four-toed salamanders, the recommendations included in the "Forest Management Guidelines for the Protection of Four-toed and Spotted Salamander Populations²¹" will be implemented to the greatest extent possible. These recommendations include:

- No tree removal between March 15 and September 30
- Tree removal to take place on frozen soil
- Trails be minimized and located in a manner that prevents run-off from entering wetlands
- Areas impacted by soil compaction and rutting should be minimized
- Timber slash should be distributed throughout the harvested area, not placed into large piles
- No use of herbicides

To minimize impact to NLEB, the DNR recommends that tree removal be avoided from June 1 through August 15. No effects on the NLEB are anticipated; tree clearing would abide by date restrictions established in permitting. Impacts to the NLEB from noise is anticipated to be negligible. Increases in noise from construction would be temporary and typically short in duration, only occurring during daytime hours. Bats roosting in trees may be disturbed by ATV noise; however, suitable roosting forested habitat away from the trails is neither unique nor

¹⁶ [Wildlife Friendly Erosion Control](#)

¹⁷ [Blanding's Turtle Flyer](#)

¹⁸ [DNR Incidental Species Observations Web](#)

¹⁹ [Helping Turtles Across the Road | Minnesota DNR](#)

²⁰ [Blanding's Turtle Fact Sheet](#)

²¹ [SFRMP Four-toed Salamander Management Guidelines for Northeast Minnesota, Carol Hall Nov 2003](#)

rare in the surrounding area, and if impacted by noise adjacent to the trail there should be suitable roosting locations nearby. Impacts on the bat's ability to feed are not anticipated as trail use would primarily occur during daylight hours.

Federally-listed Species

The online initiation of USFWS consultation would need to be repeated in the future for any segment requiring a federal permit or approval or prior to receiving federal funding. At that time, the USFWS would be consulted and the project proposer and lead federal agency (likely U.S. Army Corps of Engineers if in the context of a wetland/waterway permit, USFS if for work on federal land, or FHWA for federal funding) would coordinate to understand if any further evaluation or mitigation measures are required if the result is still "may affect" for any species or critical habitat.

Bald eagle impacts are anticipated to be negligible and temporary in duration. The timeframe for potential impacts to eagles would be restricted to the months in which the trails are open for ATV use, which typically begins in May (although it is dependent on snow melt and road restrictions conditions). In order to mitigate impacts on eagles and other migratory birds, the use of existing routes that are currently being utilized by local ATV traffic, and in many cases, winter snowmobile traffic, are used to greatest extent. ATV traffic is generally temporary and does not occur for extended periods of time. For new ATV trail segments, a bald eagle survey will be completed prior to project construction. Following the results of the survey, the project proposer will work with the USFWS to determine whether a permit is needed.

To avoid and minimize impacts to other wildlife, construction BMPs would be used to exclude turtles and other species from the construction area and prevent erosion/sedimentation to aquatic habitat. Erosion control measures should not be mesh (plastic, nylon, etc.) that could cause entrapment of turtles and other species. Per the DNR recommendation, effective erosion prevention and sediment control practices are implemented and maintained for the duration of the project and incorporated into any stormwater management plan.

Aquatic Resources

DNR Public Waters Work Permits would include work exclusion periods to protect fish spawning and migration. No activity affecting the bed of protected waters would be conducted during exclusion periods. For warm water systems, the exclusion period is April 1 – June 30 of the same year. For the Lake Superior watershed and designated DNR trout streams and protected tributaries, the exclusion period is September 15 – June 30 of the following year.

Fish Lake Flowage is a Lake of Outstanding Biological Significance based on its fish, bird, and plant presence. Effective erosion prevention and sediment control practices will be implemented and maintained near the lake throughout the duration of the project. During trail construction, any work in infested public waters, such as construction of crossings, would require a joint Public Waters Work Permit/Invasive Species Permit. The joint permit includes conditions to help mitigate the spread of aquatic invasive species, such as decontamination of equipment used in infested waters and for the transport of infested materials. A list of infested waters is available on the MNDNR Infested Waters webpage.

The Minnesota Department of Transportation (MnDOT)'s 2013 "Culvert Designs for Aquatic Organisms Passage: Culvert Design Practices Incorporating Sediment Transport" guidance document²² will be referenced when planning and designing culvert installations.

Coordination with the MNDNR's Old Growth Committee was initiated in May 2025 for guidance on

²² [Culvert Designs for Aquatic Organism Passage: Culvert Design Practices Incorporating Sediment Transport](#)

avoiding impacts to the old growth stand. The Old Growth Committee offered the following response:

In reviewing the stand information, the NE Old-growth Committee noted that the stand and proposed trails are within the Lost Lake Hardwoods site – which is listed as an MBS site of High Biodiversity significance. We encourage the proposer to explore routes on adjacent county land, if possible.

Also note, if the route as shown is selected, a wetland delineation would be needed prior to trail construction. The wetland that runs thru the stand and is proposed to be crossed along the existing route may be classified as a rare natural community, see WCA Rare Natural Community Guidance. Wetland avoidance and mitigation measures are needed in these situations (such as incorporating bridges or culverts that maintain existing hydrology).

As for the trail passing thru the Old-growth stand, below are the types of conditions that would be included in any lease agreements (subject to further review and approvals):

- *Thru the Old-growth stand the corridor could not be widened and no additional clearing of vegetation would be allowed beyond the existing trail corridor;*
- *Any gravel used for reconstructing the trail bed would be certified free of invasive species*
- *The trail would require post-construction monitoring and treatment, to identify and remove invasive species;*
- *Any existing trails that could allow access to the old-growth stand would be blocked off with boulders or other substantial barriers;*
- *Trail construction would follow MFRC Voluntary Site Level Guidelines on Forest Road Construction and Maintenance (2012, beginning on page 234).*

The NHIS letter recommends avoidance of old growth forests. Coordination with the Old Growth Committee is anticipated to be ongoing review and permitting of the Lost Lake Trail route, if this route moves to design and permitting.

Stormwater pollution prevention BMPs would be implemented to prevent water quality degradation. To reduce potential impacts to wildlife habitat itself, design standards would follow the sustainable natural surface trail design practices described in the “Trail Planning, Design, and Development Guidelines” manual (MNDNR 2007) throughout the project area to minimize tread area and potential erosion.

Fourteen (14) Category 3 Routes intersect MBS sites of biodiversity significance. Impacts from construction in these areas would be reduced by siting the trail on existing trails or ROWs; using only fill free of invasive species; refraining from staging supplies or equipment in or near the MBS sites; and following redundant stormwater runoff BMPs. In some cases, construction activities may also be confined to certain times of the year to reduce impacts (e.g., when the ground is frozen, low/no flow conditions). The DNR recommends avoidance of MBS Sites ranked *High* or *Outstanding*. The current plan is to maintain a barrier between the proposed activities and MBS Sites could be used where feasible, in locations where routes intersect or border MBS sites. Examples would be restrictive gates or barricades where trails not intended for ATV use intersect the proposed routes. Impacts to MBS sites of biodiversity significance from trail use can be addressed by trail riders being encouraged in the rules and in the signage to stay on the mapped and signed trails as well as to use the PlayCleanGo program, including cleaning machines prior to using the trail system.

Trails would be signed adequately to inform users of the designated routes and trail

rules/requirements. Installation of gates or barricades in specific locations would be considered to restrict access during sensitive environmental periods such as in spring or particularly wet periods, on old logging roads, burned over areas, other easily accessible forest sites, and areas adjacent to but not approved for ATV use.

Noxious/invasive species can adversely impact wildlife habitat. Prevention and control of noxious/invasive species would be considered in the design, construction, and maintenance of trails. Measures to prevent the spread of noxious/invasive species during construction include thoroughly cleaning equipment after working in infested areas and revegetating disturbed areas as soon as possible after construction is completed. Where disturbed, land would be stabilized by seeding with appropriate native seed mixes (native NE woodland or wet meadow), which would be certified free of invasive species. Contractors will be instructed to clean equipment before and after use, and the construction will use clean fill. Monitoring for noxious and prohibited weeds would be included as part of the trail monitoring and maintenance plans. MN Department of Agriculture guidelines on management of the invasive plant spotted knapweed (*Centaurea stoebe* ssp *micranthos*) and yellow parsnip (*Pastinaca sativa*) would be implemented to control for these plants.

ATV users are encouraged to wash their machines before and after each ride to prevent the spread of invasive species. While riding on the trail, ATV users are encouraged to stay on the trail and avoid muddy spots as riding off trail or through mud will increase opportunities for picking up seeds and vegetation. TATR promotes trail stewardship at the club meetings and throughout their affiliation with ATVMN. TATR distributes information provided by the PlayCleanGo program²³, which is a campaign to prevent detrimental effects of invasive species in North America. Additionally, signage may be implemented at trailheads to aid in the identification and reporting of noxious/invasive species. Boot brushes for footwear may also be installed.

All invasive species observations can be reported through EDDMaps; TATR will encourage the use of EDDMaps for invasive species reporting. Grant in Aid funding requires that grantees must follow Operational Order 113²⁴, which establishes policy and procedures to prevent or limit the introduction, establishment, and spread of invasive species and implementation of site-level management to limit the spread and impact of invasive species.

15. Historic properties:

Describe any historic structures, archeological sites, and/or traditional cultural properties on or in close proximity to the site. Include: 1) historic designations, 2) known artifact areas, and 3) architectural features. Attach letter received from the State Historic Preservation Office (SHPO). Discuss any anticipated effects to historic properties during project construction and operation. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to historic properties.

According to the Minnesota Office of the State Archaeologist's Public Viewer²⁵, previously known archaeological sites are located in the same PLSS sections as the proposed project. According to the National Register of Historic Places, there are seven (7) locations on the National Register of Historic Places in the vicinity of the project: six (6) in the City of Cloquet and one (1) in the City of Proctor:

1. Cloquet High School, Cloquet

²³ [Invasive Species](#)

²⁴ [Operational Order 113 Invasive Species Prevention and Management](#)

²⁵ [MN OSA Public Viewer - OSAsites](#)

2. Shaw Memorial Library, Cloquet
3. Lindholm Oil Company Service Station, Cloquet
4. Cloquet Northern Office Building, Cloquet
5. Cloquet City Hall, Cloquet
6. Northeastern Hotel, Cloquet
7. Northland Structure, Proctor

None of the properties listed in the National Register of Historic Places will be impacted by the proposed project.

The Minnesota State Historic Preservation Office (SHPO)'s Statewide Historic Inventory Portal (MnSHIP) was reviewed to identify project areas where SHPO resources are present. The following MnSHIP features are within the EAW study area for Category 2B, 2C, and 3 routes:

Feature Type	Historic Inventory Number	Historic Name	National Register Eligible?	National Register Listed?
Line	XX-ROD-00176	Trunk Highway 2	N	N
Line	XX-ROD-00165	Trunk Highway 33	N	N
Line	XX-ROD-00019	U.S./Trunk Highway 61 (formerly State Road/TH 1 and 3)	N	N
Line	XX-RRD-NPR030	Duluth Short Line Railway Company/St. Paul and Duluth Railroad Company/Northern Pacific Railway Company: Knife Falls Branch	N	N
Line	XX-RRD-GNR036	Eastern Railway Company/Great Northern Railway Company: East Grand Forks to Wisconsin State Line near Wrenshall	N	N
Line	XX-RRD-GNR034	Duluth and Winnipeg Railroad Company/ Duluth Superior and Western Railway Company/Eastern Railway Company/Great Northern Railway Company	N	N
Line	XX-RRD-CNR001	Duluth Winnipeg and Pacific Railway Company/Canadian National Railway	N	N
Point	CL-SCA-00002	Lumber building	N	N
Point	CL-TLK-00035	Bridge 09513	N	N
Point	SL-STB-00001	Bridge 5190	N	N
Point	SL-GLK-00008	Culvert 95855	N	N
Point	SL-DUL-03931	Bridge 69603	N	N
Point	SL-DUL-02657	Bridge 7658	N	N
Polygon	SL-FRE-00002; SL-FRE-00004	Restricted	Unknown	Unknown

SHPO recommends an archaeological literature assessment of the project (a Phase 1a) to help determine whether the project has the potential to affect known or suspected archaeological sites. A Phase 1a literature assessment will provide more information regarding whether known or previously unknown archaeological sites are located within the proposed project area. These studies should be developed and structured to best inform the project's effects on archaeological resources. If recommended by the Phase 1a results, the proposer will contract a qualified consultant to complete a Phase 1 archaeological survey prior to any ground disturbance.

16. Visual:

Describe any scenic views or vistas on or near the project site. Describe any project related visual effects such as vapor plumes or glare from intense lights. Discuss the potential visual effects from the project. Identify any measures to avoid, minimize, or mitigate visual effects.

Because the routes are largely existing corridors, substantial changes to scenic views/vistas are not anticipated. No lighting or vapor plumes are proposed or expected as part of the project. Impacts to visual aesthetics are expected to be minimal and include the installation of additional signage identifying the route. The signage would be similar to wayfinding signage for other roads, trails, and amenities in the area. Signs would follow MnDOT's standards of the "Minnesota Manual on Uniform Traffic Control Devices." Clearing of trees/shrubs required for proposed new trail segments would result in visual changes; however, the nature of the project as linear corridors without substantial clearing should minimize these effects.

17. Air:

- a. Stationary source emissions - Describe the type, sources, quantities and compositions of any emissions from stationary sources such as boilers or exhaust stacks. Include any hazardous air pollutants, criteria pollutants. Discuss effects to air quality including any sensitive receptors, human health or applicable regulatory criteria. Include a discussion of any methods used assess the project's effect on air quality and the results of that assessment. Identify pollution control equipment and other measures that will be taken to avoid, minimize, or mitigate adverse effects from stationary source emissions.

There are no stationary sources of air emissions in the proposed project area or proposed as part of the project.

- b. Vehicle emissions - Describe the effect of the project's traffic generation on air emissions. Discuss the project's vehicle-related emissions effect on air quality. Identify measures (e.g. traffic operational improvements, diesel idling minimization plan) that will be taken to minimize or mitigate vehicle-related emissions.

The proposed project is anticipated to result in an increase in vehicle-related emissions, due to the expected new ATV traffic. Increases in vehicle-related emissions are anticipated to be sporadic and intermittent. Air emissions would be restricted to the months in which the trails are open for ATV use. Construction equipment would also result in air emissions during construction of the new trail segments and trail improvements. Construction emissions are anticipated to be minor and temporary in nature. Ongoing ATV operations emissions are expected to increase.

- c. Dust and odors - Describe sources, characteristics, duration, quantities, and intensity of dust and odors generated during project construction and operation. (Fugitive dust may be discussed under item 17a). Discuss the effect of dust and odors in the vicinity of the project including nearby sensitive receptors and quality of life. Identify measures that will be taken to minimize or mitigate the effects of dust and odors.

For existing routes currently open to ATV use (Route Category 1), there may be a small amount of additional dust and odors due to increased ATV traffic.

For Route Categories 2B, 2C, and 3, no significant odors are anticipated to result from ATV use. Odors that may be strong or offensive would be generated where vehicles congregate. Such congregations are anticipated to be sporadic and temporary. As the proposed routes become operational, ATVs may create dust on natural surface trails. Dust would depend primarily on the type and number of vehicles, operating speeds, time of day, and trail moisture conditions.

Along most of the proposed segments, there are no sensitive receptors for odors, noise, dust, and emissions. Closer to developed areas and residences (e.g., approaching Esko and Cloquet), the segments use existing corridors largely already used for ATV travel. For County Road alignments, noise and dust are generated by existing ATV and highway vehicle traffic. For new trail alignments, the proposed trail section would not allow high speeds, thereby limiting dust and odors. Dust from the construction of new trails or the physical improvement of existing trails is expected during periods of dry weather.

During construction, dust would be visually monitored and recorded in conjunction with the NPDES Construction Stormwater Permit inspections. Appropriate dust control BMPs, such as soil wetting or misting/water vapor, would be implemented by the construction contractor as necessary. Specific BMPs would be determined based on severity, weather conditions, and site conditions.

18. Greenhouse Gas (GHG) Emissions/Carbon Footprint

- a. GHG Quantification: For all proposed projects, provide quantification and discussion of project GHG emissions. Include additional rows in the tables as necessary to provide project-specific emission sources. Describe the methods used to quantify emissions. If calculation methods are not readily available to quantify GHG emissions for a source, describe the process used to come to that conclusion and any GHG emission sources not included in the total calculation.

GHG emissions related to the project were calculated using emission factors from the Environmental Protection Agency (EPA)²⁶. The projected GHG emissions are projected for an annual basis using the CO₂ equivalent (CO_{2e}), and include the proposer's best estimate for average emissions related to the project. GHG emissions are categorized as Scope 1, if they are direct emissions released from the project. Scope 2 emissions are indirect emissions and Scope 3 are indirect from processes outside of the project area. The estimate includes emissions for the construction and the operational phases of the project. Emission categories for the project are shown below, as provided in EQB Guidance. Workbooks used for GHG emission estimates are included as Attachment E.

Emission Categories for GHG Assessment

Emission Category	Scope	Project Phase	Type of Emission	Estimated GHG Emissions per year (short ton of CO _{2e})
Direct	Scope 1	Construction	Combustion – Stationary Sources	208.1*
Direct	Scope 1	Construction	Combustion – Mobile Sources	2.9*
Direct	Scope 1	Operations	Combustion – Mobile Sources	1,078.5-1,098.2

*Construction emissions are only applicable for years when construction occurs.
(One metric ton = 1.10231131 short tons)

²⁶ [GHG Emission Factors Hub | US EPA](#)

Construction Emissions

GHG emissions related to the construction of the project are associated with fuel combustion from mobile vehicles and stationary construction equipment. Construction is anticipated to take about 3-6 months (within an 8-month primary construction window) for each segment. This calculation assumes some exclusions due to weather or other site conditions. For the purposes of this GHG assessment, it is assumed that there is a maximum of 120 days of construction for the project.

Operation of on-road vehicles is estimated to consist of two (2) passenger cars per day for commuting construction workers. Off-road vehicle emissions include those generated by construction equipment that will remain within the project area for the duration of construction. There are potential differences in the specific equipment utilized based on the contractor selected to complete the work. For the purposes of this assessment, two (2) pieces of diesel-powered equipment are assumed to be in operation for 12 hours per day, for 1,440 hours total. The default diesel fuel consumption rate of 0.05 gallons per horsepower-hour²⁷ is used to determine the fuel usage for all equipment. Gallons of diesel fuel that would be used during construction are estimated using the information provided above.

Annual emissions related to the construction of the project are estimated to be 211.0 short tons.

Operational Emissions

GHG emissions related to ATV traffic are expected to increase because of the proposed project. These increases in GHG emissions are anticipated to be seasonal and intermittent. GHG emissions related to operational use by ATVs would be restricted to the months in which the trails are open to ATVs. Note that the intention of the project is to increase ATV trail connectivity and therefore reduce the need for vehicle travel and trailering to isolated and separate trail segments.

Trail usage data collected at the nearby Fond du Lac State Forest was used to estimate trail usage, with the rationale that ATV users currently using the adjacent Fond du Lac State Forest ATV trail system, will be a target user group of the TATR trail system. Trail counts were made between May 25, 2024, and November 2, 2024, which represented the season when trails were open to ATV use in 2024. During this timeframe of 162 days, 1549 machines were counted, representing 9.5 machines per day or 66.5 machines per week. The estimate of 66.5 machines per week was used to estimate GHG emissions that may result from ATV use of the TATR trail system.

Many of the trails would be open for ATV use up to 35 weeks out of the year (closed December through March for snowmobile season). Therefore, the approximate annual ATV use is estimated to be 2,328 machines for the trail system.

GHG emissions related to operations for the 510.8 miles of trail included in this EAW were estimated using 2,328 ATVs per year and an average fuel consumption rate of 10 miles per gallon. Total GHG emissions were estimated using a similar method as described above for the emissions related to construction. Estimated gallons of gasoline used annually were calculated using the estimated ATVs per year, mileage of the trail, and average miles per gallon. Emission factors for gasoline are based on Table 2 and 5 of the EPA's Emission Factors Hub (footnote - [Emission Factors for Greenhouse Gas Inventories](#)), and were utilized to estimate the emissions of CO₂, CH₄, and N₂O related to annual operational use of the trail segments. Global warming potentials were applied to estimate total GHG emissions (CO₂e²).

Estimates indicate use of the segments of trail included in the project would generate 1,078.5-1,098.2 short tons of emissions annually.

²⁷ [Microsoft Word - Guidelines for Calculating Emissions from Internal Combustion Engines - March 2023 - FINAL.docx](#)

b. GHG Assessment

i. Describe any mitigation considered to reduce the project's GHG emissions.

The proposed project has mitigated GHG emissions through the following:

- Efficient routing of trails.
- Utilizing existing trail corridors and previously disturbed areas.
- Minimization of tree-clearing and land conversion.

Gravel fill would be utilized for areas of the trail that require improvement. According to the National Stone, Sand, and Gravel Association²⁸, GHG emissions from the aggregates industry are inherently low. The facilities that produce these products use relatively little electrical energy or fossil fuels. Aggregate is not heated or thermally treated, and, unlike other mining operations, the extraction of stone and sand is conducted with a recovery ratio of more than 90%, which reduces the amount of material that must be handled, thereby reducing energy requirements.

The project proposed will encourage the selected construction contractor to reduce GHG emissions from construction, which would include minimizing idling equipment and properly maintaining equipment. Construction-related emissions would be temporary in nature.

In addition, TATR encourages trail stewardship, including the maintenance of vehicles to maintain emissions standards and the use of electric machines, as well as minimizing the practice of idling.

ii. Describe and quantify reductions from selected mitigation, if proposed to reduce the project's GHG emissions. Explain why the selected mitigation was preferred.

The following activities may be considered to help mitigate the project GHG emissions:

- Efficient routing of trails.
- Use of existing trail corridors and previously disturbed areas.
- Minimization of tree-clearing and land conversion.
- Use of low emission aggregate fill for trail improvements.
- TATR plans to encourage proper maintenance of ATVs in their system maps and kiosk signage, with the intention to use this as a strategy to prevent increases in emissions due to mechanical problems and deferred ATV maintenance.

iii. Quantify the proposed projects predicted net lifetime GHG emissions (total tons/#of years) and how those predicted emissions may affect achievement of the Minnesota Next Generation Energy Act goals and/or other more stringent state or local GHG reduction goals.

The projects' predicted net lifetime GHG emissions are a maximum of 55,121.2 short tons of CO₂e emissions over the course of 50 years; this estimate includes the construction emissions for all 50 years of the project lifetime; however, construction emissions would only be generated in years where construction occurs. This accounts for 0.06% of the 2022 Minnesota's Climate Action Framework Next Generation Energy Act (NGA) goal²⁹ for 2030. The mitigation measures discussed above will likely offset a portion of these emissions, however this was not quantified. Overall, the project is anticipated to have minimal impact on the State of Minnesota's GHG reduction goals.

²⁸ [NSSGAGreenhouseGasEmissionsReport04-26-21.pdf](#)

²⁹ [Greenhouse Gas Emissions / One Minnesota Plan](#)

State of Minnesota GHG Reduction Goals Comparison

Description	CO ₂ e (short tons)
Project First Year Total Emissions	1,309.2
2020 MN Emission & Next Generation (NGA) Goal	88,754,387
Project's First Year % of NGA Goal	0.0015%
Project Annual Emissions over 50 Year Net Lifetime	55,121.2
Project's Annual Lifetime % of NGA Goal	0.06%

19. Noise

Describe sources, characteristics, duration, quantities, and intensity of noise generated during project construction and operation. Discuss the effect of noise in the vicinity of the project including 1) existing noise levels/sources in the area, 2) nearby sensitive receptors, 3) conformance to state noise standards, and 4) quality of life. Identify measures that will be taken to minimize or mitigate the effects of noise.

Local trail managers estimate that the overall trail system would have 30 to 50 users per week. Many of the trails would be open for ATV use up to eight (8) months out of the year (closed December through March for snowmobile season). Therefore, the approximate annual ATV use is estimated to be 1,280 machines for the trail system. Generally, ATV noise is regulated by MN Rule 6102.0040, Subp. 4.B21, which restricts noise emission from ATVs and ORVs,

"...so that overall noise emission does not exceed a sound level limitation of not more than 99 decibels on the A scale from a distance of 20 inches using test procedures and instrumentation as set forth in the Society of Automotive Engineers' Standard, SAE J1287, June 1988, or, if different procedures or instrumentation are used, a noise level equivalent to that level."

Ambient noise on existing snowmobile trails is currently generated by winter vehicle (snowmobile) traffic. A change in use to allow ATVs would involve new or increased noise due to ATV traffic in the spring, summer, and fall.

The region surrounding the trail System is mostly sparsely populated, and surrounding land use is mostly natural vegetation, timber management, and recreation. Sensitive receptors include the public recreating near the segments and private landowners adjacent to trail segments. Most trail segments are distant from private residences

For the proposed trail segments, any private parcel within 0.25 mile was considered "nearby" for purposes of evaluating noise effects. The numbers of private landowners and parcels with structures within 0.25 miles of a proposed trail segment are summarized below. Numbers displayed are based on available parcel and tax data for parcels within 0.25 mile of a trail segment. On a given parcel within 0.25 miles of a proposed trail segment, the structures therein may be more distant than 0.25 miles from the trail.

Private Landowners within 0.25 Miles

Trail Group	Number of Private Landowners within 0.25 Miles	Building / Structures Present
Brookston Loops	41	23
Canyon to Cotton	23	4
Cross Roads Connector	5	3
Floodwood Loop	21	11

Lumberjack Extension	19	12
Lumberjack to Brookston	16	5
Road Route Connections	1,566	1,106
Taft to Canyon	7	1
West Lavaque Trail System	103	65

Most residences near the trails are concentrated near developed areas. Overall, the ATV traffic near private residences is anticipated to be similar to other traffic noise sources in the area. ATV traffic is anticipated to be intermittent and temporary in nature as the users travel along the trail segments. Minor seasonal increases in noise are expected for areas not in proximity to existing highways. Buffering vegetation would remain between the trail and private structures, and private landowners are not expected to experience a negative change in quality of life from the intermittent noise generated during routine trail operations.

Wildlife would also be exposed to noise levels near or along the trail. This noise is anticipated to be sporadic and short in duration. Increased background noise can affect wildlife behavior and physiology. Noise generated by trail use would be temporary and short in duration. The short and temporary increases in noise could temporarily dislocate wildlife not conditioned to noise generated by ATVs. Species present would have a varying level of tolerance to disturbance in general and noise in particular. Noise-sensitive species such as bats may be temporarily displaced or change roosting/foraging habits in vicinity of the trails. Bats roosting in trees may be disturbed by ATV noise; however, suitable roosting forested habitat away from the trails is neither unique nor rare in the surrounding area, and if impacted by noise adjacent to the trail there should be suitable roosting locations nearby. Impacts to the bat's ability to feed are not anticipated as trail use would primarily occur during daylight hours.

Construction effects would include noise typical of road or trail project construction contractors using skid steers, small excavators, or similar machinery. Construction noise would be temporary and limited to daytime hours.

20. Transportation

- a. Describe traffic-related aspects of project construction and operation. Include: 1) existing and proposed additional parking spaces, 2) estimated total average daily traffic generated, 3) estimated maximum peak hour traffic generated and time of occurrence, 4) indicate source of trip generation rates used in the estimates, and 5) availability of transit and/or other alternative transportation modes.

No new parking areas are proposed. Currently, parking areas are provided by local businesses offering services such as food, lodging, gas, trailer/vehicle parking, and minor repairs.

Local trail managers estimate that the overall trail system would have 30 to 50 users per week. Many of the trails would be open for ATV use up to eight (8) months out of the year (closed December through March for snowmobile season). Increases in traffic would occur because of new ATV use and vehicles trailering ATVs to the project area. These increases would be sporadic, intermittent, and restricted to spring, summer, and fall when the trails are open to and suitable for ATV use.

There is no plan for winter use by ATVs. No conflicts with snowmobile use or groomer operations are anticipated. Seasonal ATV traffic is anticipated to be similar to current snowmobile user traffic.

Construct-related traffic effects would temporarily increase during construction. These effects would be minor and temporary in nature.

- b. Discuss the effect on traffic congestion on affected roads and describe any traffic improvements necessary. The analysis must discuss the project's impact on the regional transportation system. *If the peak hour traffic generated exceeds 250 vehicles or the total daily trips exceeds 2,500, a traffic impact study must be prepared as part of the EAW.* Use the format and procedures described in the Minnesota Department of Transportation's Access Management Manual, Chapter 5 (available at: <http://www.dot.state.mn.us/accessmanagement/resources.html>) or a similar local guidance,

The EAW includes 298.4 miles (281.5 miles preferred; 17.0 miles alternative) of Category 1 routes located on County State Aid Highways (CSAH), County Roads (CR), Township, or City roads, which currently allow ATV traffic, 63.6 miles (54.4 preferred; 12.1 alternate) of Category 2B routes (existing snowmobile trail, and 131.6 miles (96.7 preferred; 31.9 alternate) of Category 2C (existing routes / alignments). The use of these routes has the potential to increase congestion on affected roads, however, local trail managers estimate that the overall trail system would have 66.5 users per week.

New crossings of MnDOT state highway are included in the proposed project. These crossings would be permitted through the MnDOT's LUP process, and would be designed to meet all safety requirements. Crossings of State Highway 53 and 33 are currently unregulated. The designation of specific trail crossings of these state highways may decrease conflicts between ATV users and motorists, and improve safety.

Traffic within and near the project area is not expected to change substantially because of the proposed project. Increased congestion is not anticipated due to the project, nor are traffic improvements expected to be needed.

- c. Identify measures that will be taken to minimize or mitigate project related transportation effects.

Project related transportation effects are not anticipated. Any increase in traffic that might occur is expected to be minor. Any temporary traffic disruptions would be mitigated by implementing proper traffic control measures as specified in the "*Minnesota Manual on Uniform Traffic Control Devices*" (MnDOT). There are no identified long-term traffic minimization plans associated with the project.

21. Cumulative potential effects:

- a. Describe the geographic scales and timeframes of the project related environmental effects that could combine with other environmental effects resulting in cumulative potential effects.

The geographic scale for evaluating cumulative potential effects is the area encompassing the proposed Twig Area Trail Riders (TATR) trail system and the surrounding areas in Carlton and St. Louis counties where reasonably foreseeable projects and land-management activities may interact with project-related effects. The proposed trail system includes approximately 437.1 miles of preferred routes and 72.7 miles of alternate routes, including existing roadways, existing trails and alignments requiring improvements, potential seasonal routes, and new trail construction. Most of the proposed system follows existing roadways, forestry roads, local ATV trails, snowmobile trails, and railroad grades, while approximately 19.3 miles are proposed as new trail construction. The geographic scale of potential cumulative effects

therefore varies by resource and may extend beyond the immediate trail corridor where effects such as wildlife disturbance, invasive species spread, noise, traffic, and greenhouse gas emissions may occur.

The primary construction period for individual trail segments is anticipated to be approximately six months, although the timing and duration of construction may vary based on accessibility, environmental resource constraints, threatened and endangered species considerations, permitting, and logistical factors. Long-term effects associated with operation and maintenance of the trail system would continue throughout the period of trail use.

Potential project-related effects that could combine with effects from other reasonably foreseeable activities include erosion and water quality impacts; disturbance to native plant communities, MBS Sites of Biodiversity Significance, and old-growth forest stands; spread of noxious and invasive species; wildlife disturbance, habitat fragmentation, and potential wildlife mortality; dust and noise; traffic; and greenhouse gas emissions. These effects would generally be localized during construction but may persist or occur periodically during operation and maintenance of the trail system.

- b. Describe any reasonably foreseeable future projects (for which a basis of expectation has been laid) that may interact with environmental effects of the proposed project within the geographic scales and timeframes identified above.

ATV Trails

Neighboring ATV and Snowmobile Clubs, include Alborn Dirt Devils, Alborn Snow Devils, Carlton County Riders, Head of the Lakes ATV Riders, Hermantown Night Riders, Reservoir Riders, Whiteface River Riders, Pequaywan Area Trail Blazers, Wood City Riders, Wild Country ATV, and others. TATR has coordinated with neighboring clubs to consider efficient trail riding and ensure desired geographic areas are planned for.

Areas within TATR's purview are directly adjacent to areas within the Reservoir Riders Snowmobile Club, Wood City Riders Snowmobile Club, and Alborn Dirt Devil ATV / Aborn Snow Devils Snowmobile Clubs. TATR met with the Reservoir Riders in December 2022 to discuss inclusion of Reservoir Riders Snowmobile Trails in TATR's ATV trail proposal. In 2023, TATR and Alborn hold joint meetings to brainstorm mapping and solidify areas within the purview of each ATV Club. TATR met with Reservoir Riders on two (2) occasions in 2023 to discuss areas of Reservoir Riders snowmobile trails that may require improvement for safe and sustainable use by ATVs and get feedback on all proposed mapping. Reservoir Riders voiced interest in having ATV dedicated funds to improve trails.

Prior to the preparation of the EAW, TATR shared proposed trail alignments and received feedback from neighboring Clubs on the following dates:

- 12/30/2024 – Alborn Snow Devils
- 1/7/2025 – Carlton County Riders, Head of the Lakes ATV, and Hermantown Night Riders
- 1/9/2025 – Reservoir Riders

Foreseeable future projects include trail projects covered by neighboring ATV clubs, which would connect to TATR's proposed system, but not have direct geographic overlap. The above ATV trail clubs will have ongoing maintenance on their trails, but construction effects will not overlap in geographic scale. These trail systems have separate project proponents, and each individual trail system is not dependent on the existence of another.

TATR's proposed trail system overlaps geographically with Reservoir Riders, Wood City Riders, Alborn Snow Devils, and Hermantown Night Riders snowmobile trails. The seasonal use of the trails by ATV riders will not overlap with use by snowmobiles.

Additional Trails

There are numerous other trails in the vicinity of the trail system including the MNDNR hunter walking trails, state forest trails, etc. The routes have been planned for compatibility with intersecting trails, including gates/restrictions to prevent unauthorized use. Although these additional types of trails may be in the same geographics setting, there are no anticipated conflicts.

Forestry

Lands for forestry owned by the State of Minnesota, Carlton County, St. Louis County, and the Superior National Forest within the proposed project area may be logged. Lands within the project area are subject to ongoing, active timber sales.

Projects by State and Local Governments

State Highway 33 is planned to be reconstructed in 2028, which intersects the Cloquet LUP trail segment (Road Route Connections). MnDOT has indicated the ATV trail could be placed in MnDOT ROW and has included ROW space for the trail in their design, however, the ATV Club responsible for the trail would need to install a retaining wall to provide separation between the road and the trail. TATR is working with MnDOT and the Carlton County Riders ATV Club to secure a LUP and coordinate funding for the retaining wall and trail construction.

- c. Discuss the nature of the cumulative potential effects and summarize any other available information relevant to determining whether there is potential for significant environmental effects due to these cumulative effects.

Erosion

Cumulative erosion effects could occur where trail construction, timber management, roadway construction, or other land-altering activities occur in the same area or during the same timeframe. The potential for cumulative effects would be greatest where multiple activities disturb soils or alter drainage at the same time. The proposed project would reduce this

potential through sustainable trail design, erosion and sedimentation control measures, and compliance with applicable permit requirements. Coordination with timber operators would be used to identify potential temporal or geographic overlaps.

Water Quality

Cumulative water quality effects are also possible where project-related erosion, wetland alteration, water crossings, or drainage modifications occur in conjunction with other land-management activities. The project includes potential wetland and water-resource crossings that would be subject to applicable permitting and, where required, mitigation. The WCA replacement plan and MPCA Construction Stormwater General Permit requirements would provide additional measures to control erosion and sediment transport. Construction BMPs, including silt fencing, erosion-control blankets, and biorolls where appropriate, would be used to minimize sediment transport. Upland reroutes would be prioritized where feasible, and the

final design and permitting process would be used to avoid and minimize aquatic-resource impacts.

Native Plant Communities and MBS Sites of Biodiversity Significance

Cumulative effects to native plant communities and MBS SBS could occur where increased ATV use combines with existing recreational use or other land-disturbing activities. Potential effects include direct disturbance from construction and trail improvements, vegetation clearing, trail widening, off-trail ATV use, and increased human activity. The potential for cumulative effects would be reduced by avoiding sensitive areas where practicable, using alignment flexibility within the review corridor to avoid sensitive resources, monitoring trail use, and using physical barriers where necessary to prevent access to sensitive areas.

Old-growth Forest Stands

Old-growth forest stands represent a more localized resource concern. Five MNDNR old-growth stands were identified within 330 feet of Category 2 routes, and one proposed route, the Lost Lake Trail–Taft to Cotton segment, intersects an identified old-growth stand. The proposer has initiated coordination with the MNDNR Old Growth Forests Committee. Measures identified for this area include completing a wetland delineation before construction, prohibiting corridor widening and additional vegetation clearing through the stand, using gravel certified free of invasive species, conducting post-construction monitoring and treatment, blocking access to sensitive areas where necessary, and following applicable forest-road construction and maintenance guidelines.

Noxious and Invasive Species

Cumulative invasive species effects are possible, both during construction and use of the trails. Both construction equipment and ATVs can create the opportunity for establishing and transporting invasive species both inside and outside the proposed project area. Reasonably foreseeable ATV trail improvements/expansions would provide additional possible infestation sources, as would the existing trail system. Any invasive species established along these trails could serve as potential source for additional invasive species spread to any subsequent nearby project. Species generally of concern in the project area and surrounding region include Canada thistle, common tansy, reed canary grass, spotted knapweed, purple loosestrife, and wild parsnip. Trailheads and parking lots are the most likely sources during ongoing trail use. On segments requiring improvements, fill and aggregate brought in to construct trail may be a source of invasive species. Spread of invasive species is an ongoing possibility and will require routine monitoring and maintenance of the trails to manage. Trail managers should work with area partners such as the DNR Trail Ambassador program to monitor and reduce the spread of invasive species.

Contractors would be instructed to clean equipment before and after use, and the construction would require use of clean fill. The project proposer (Twig Area Trail Riders) is responsible for ongoing monitoring and maintenance including for invasive species. Through the GIA program, they will work in collaboration with and be held accountable to DNR for maintenance planning and use of maintenance funds. Measures to prevent the spread of invasive species during construction include working in non-infested areas first before moving to infested areas;

thoroughly cleaning equipment after working in infested areas; and revegetating disturbed areas as soon as possible after construction is completed. Wood chips or other mediums which allow invasive plants to easily take root will not be used for the trail system. Where infestations are identified, control methods will be applied to limit the spread and impact of invasive species. Where disturbed land will be stabilized by seeding, native seed mixes will be used. Keeping riders on designated trails will limit the potential of transporting invasive species to other areas.

Wildlife

The proposed trail system could contribute cumulatively to wildlife impacts by increasing the geographic extent and connectivity of ATV use. Potential effects include increased noise and human disturbance, habitat fragmentation, and accidental mortality from ATV-wildlife collisions. These effects could be additive to disturbance associated with neighboring trail systems, timber management, and other human activities. The potential for cumulative effects would be greatest in areas where existing and proposed trails provide continuous or interconnected travel corridors.

The project would reduce these effects through use of existing corridors where practicable, avoidance of sensitive resources during final alignment and permitting, seasonal restrictions where appropriate, and management of designated trail use. The EAW identifies wildlife-resource considerations throughout the project area, and final trail design and permitting would provide opportunities to address site-specific resource concerns.

Dust and Noise

Cumulative dust and noise effects could occur if trail construction overlaps with roadway construction, timber harvest, or other land-disturbing activities. Construction-related effects would generally be temporary and would occur primarily during daylight hours. The potential for simultaneous construction-related effects would be reduced through coordination of construction activities and implementation of applicable erosion, dust, and construction controls.

During operation, ATV use would introduce intermittent noise in areas that may currently have less motorized recreational use. Because the proposed system connects with other recreational trail systems, regional ATV use could contribute to cumulative noise effects over the long term. The EAW anticipates that ATV noise would be temporary and sporadic and does not expect state noise standards to be exceeded. State noise standards are not expected to be exceeded in these cases. The potential exists that ATV noise may increase; however, it is expected to be temporary and sporadic in nature and the proposer does not believe that noise levels will constitute a nuisance under state law (see Minnesota Rules Chapter 7030).

Traffic

Construction of the proposed project could result in temporary, localized increases in traffic near construction areas and at locations where trail segments connect with roads or other recreational facilities. The planned State Highway 33 reconstruction provides a specific opportunity for coordination to avoid conflicts and minimize overlapping traffic and construction effects. Following trail development, cumulative traffic effects would persist over

the lifetime of use of the trails proposed for this project, in combination with other recreation-oriented reasonably foreseeable projects, due to increased use in the area. The EAW estimates that the overall trail system would have approximately 66.5 users per week. The proposed trail system will likely contribute to localized increases in recreational traffic, particularly where it connects with other trail systems and during seasonal peak-use periods such as weekends, holidays, and organized ATV events.

Greenhouse Gas Emissions

The proposed trail system would result in long-term greenhouse gas emissions from ATV use and other vehicles associated with operation and maintenance. The EAW estimates maximum annual emissions associated with ATV use at approximately 1,098.2 short tons per year. These emissions could combine with emissions from other recreation-oriented projects and other motorized activities over the life of the trail system. The cumulative effect would therefore be persistent rather than limited to the construction period.

The proposed project would occur within an area already subject to multiple recreational, forestry, transportation, and land-management activities. The most likely cumulative effects would result from increased connectivity and use of the regional ATV trail network, combined with localized construction and maintenance activities and ongoing timber management. The magnitude and duration of cumulative effects would vary by resource and location.

The project has been designed primarily around existing roads, trails, forestry routes, and other previously disturbed corridors, with new trail segments and alternate alignments included in part to avoid or minimize effects to wetlands and other sensitive resources. Final alignments, site-specific designs, permitting, construction BMPs, resource coordination, monitoring, and adaptive maintenance would provide additional opportunities to avoid and minimize cumulative effects. Based on the information currently available, cumulative effects are possible, particularly for wildlife, invasive species, native plant communities, erosion and water quality, noise, traffic, and greenhouse gas emissions; however, the EAW identifies measures intended to avoid, minimize, and manage these effects throughout the life of the project.

22. Other potential environmental effects: If the project may cause any additional environmental effects not addressed by items 1 to 19, describe the effects here, discuss the how the environment will be affected, and identify measures that will be taken to minimize and mitigate these effects.

There are no known or potential environmental effects that were not addressed in the above EAW items.

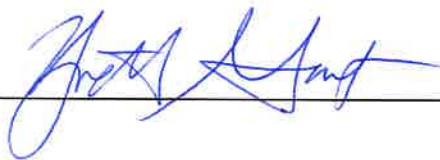
RGU CERTIFICATION. *(The Environmental Quality Board will only accept **SIGNED** Environmental Assessment Worksheets for public notice in the EQB Monitor.)*

I hereby certify that:

- The information contained in this document is accurate and complete to the best of my knowledge.
- The EAW describes the complete project; there are no other projects, stages or components other than those described in this document, which are related to the project as connected actions or phased actions, as defined at Minnesota Rules, parts 4410.0200, subparts 9c and 60,

respectively.

- Copies of this EAW are being sent to the entire EQB distribution list.

Signature 

Date 8/13/2026

Title EAW Project Manager